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**MARINE CORPS AIR STATION EL TORO  
EL TORO, CALIFORNIA  
INSTALLATION RESTORATION PROGRAM  
FINAL RCRA FACILITY ASSESSMENT REPORT**

**VOLUME IV**

**16 July 1993**

SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CALIFORNIA 92132-5190

**MARINE CORPS AIR STATION EL TORO  
EL TORO, CALIFORNIA  
INSTALLATION RESTORATION PROGRAM  
DRAFT RESOURCE CONSERVATION  
AND RECOVERY ACT (RCRA)  
FACILITY ASSESSMENT REPORT**

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EL TORO  
EL TORO, CALIFORNIA  
INSTALLATION RESTORATION PROGRAM  
RCRA FACILITY ASSESSMENT  
DRAFT PRELIMINARY REVIEW/  
VISUAL SITE INSPECTION REPORT  
VOLUME II**

**SWMU/AOC NUMBERS 145 THROUGH APPENDIX D**

**3 JULY 1991**

**PREPARED BY:**  
Southwest Division, Naval Facilities  
Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5190

**THROUGH:**  
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**WITH:**  
Jacobs Engineering Group Inc.  
3655 Nobel Drive, Suite 200  
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**In association with:**  
International Technology Corporation  
CH2M HILL

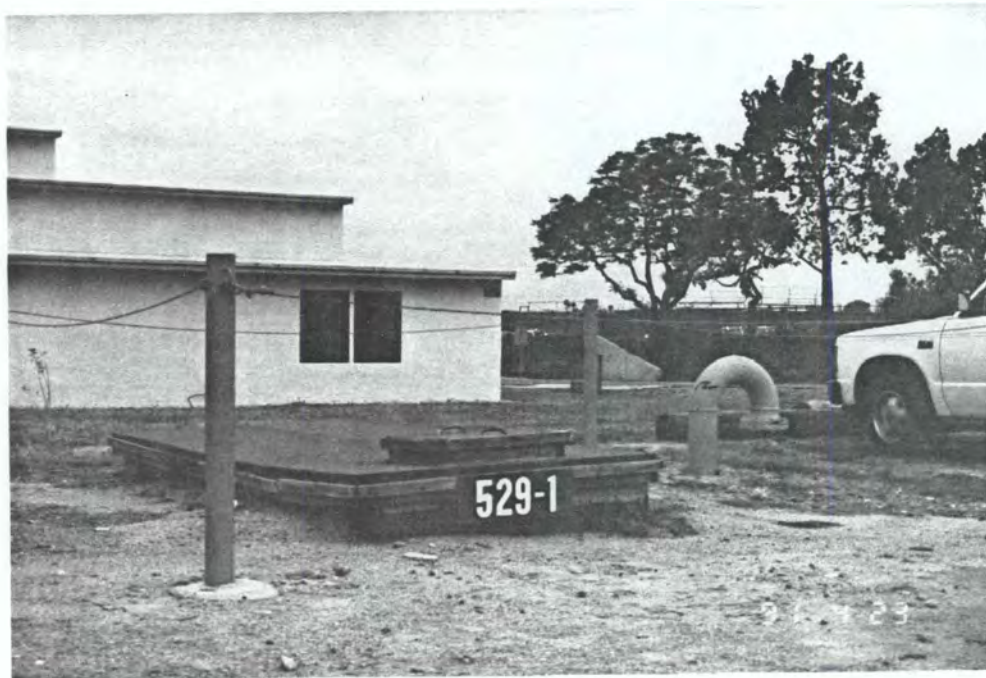
**Evaluation Form  
SWMU/Area of Concern  
Number 145**

Name: Underground Storage Tank 529

Location: Northeast of Building 529

Size: 25,000 gallons

Date of Site Visit: 23 April 91



Period of Operation

Installed in 1944  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 145**

Unit Characteristics

Underground Storage Tank (UST) 529 is located about 25 ft northeast of Building 529. The tank is concrete and has a 25,000-gallon capacity. At the top of the tank is a 5-ft x 12-ft x 12-ft housing structure. The housing structure is covered with a green-colored, asphalt roofing material. Since the tank is located underground, the physical condition of the tank could not be visually observed.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.

**Evaluation Form  
SWMU/Area of Concern  
Number 146**

Name: Drum Storage Area

Location: Building 534

Size: 800 sq ft

Date of Site Visit: 22 April 91



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 146**

Unit Characteristics

Building 534 is a drum storage facility for corrosive materials. The building is a one-room structure, approximately 800 sq ft. Corrosive materials such as sulfuric acid, phosphoric acid, and batteries are stored inside the building on a concrete floor. A drain, leading to an unknown destination, is located in the center of the building. There are no significant stains or cracks in the concrete flooring.

Waste Characteristics

Sulfuric acid  
Phosphoric acid  
Batteries

Possible Migration Pathways

Soil  
Storm drain

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

No evidence of a release was observed at this area. No further action is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 147**

Name: Drum Storage Area

Location: Adjacent to Building 602

Size: 144 sq ft

Date of Site Visit: 07 May 91



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 147**

Unit Characteristics

According to a letter from the Regional Water Quality Control Board to Lt. Rehor dated June 23, 1989, a drum storage area (DSA) was located near Building 602. At the time of the visual site inspection, an active drum storage area was not present in the area. Building 602 is bordered on the southeast side by asphalt pavement and on the remaining perimeter by unpaved soil. A probable location of the former DSA was identified on the northeast side of Building 602 at the east corner. An unpaved area measuring approximately 12 ft by 12 ft is covered with mobile steel runway matting. Soil around the matting has numerous stains. The most significant stained area measures approximately 5 ft by 10 ft and is located off the northeast side of the matting.

Waste Characteristics

Unknown

Possible Migration Pathways

Soil

Evidence of Release

Stained soil located on the northeast side of Building 602 adjacent to the probable site of the former DSA

Exposure Potential

On-Station personnel

Recommendations

A sampling visit is recommended for this area.



**Evaluation Form  
SWMU/Area of Concern  
Number 148**

Name: Oil/Water Separator

Location: Building 602

Size: Unknown

Date of Site Visit: 07 May 91

An EG&G Report identifies an oil/water separator near Building 602. According to the report, this concrete oil/water separator was installed in 1964 and is currently inactive. During the visual site inspection, no evidence of an oil/water separator was observed around Building 602. It is possible that the oil/water separator referenced by the EG&G Report could be the oil/water separator referenced at Building 764 (SWMU/AOC Number 215), located approximately 100 ft west of Building 602.



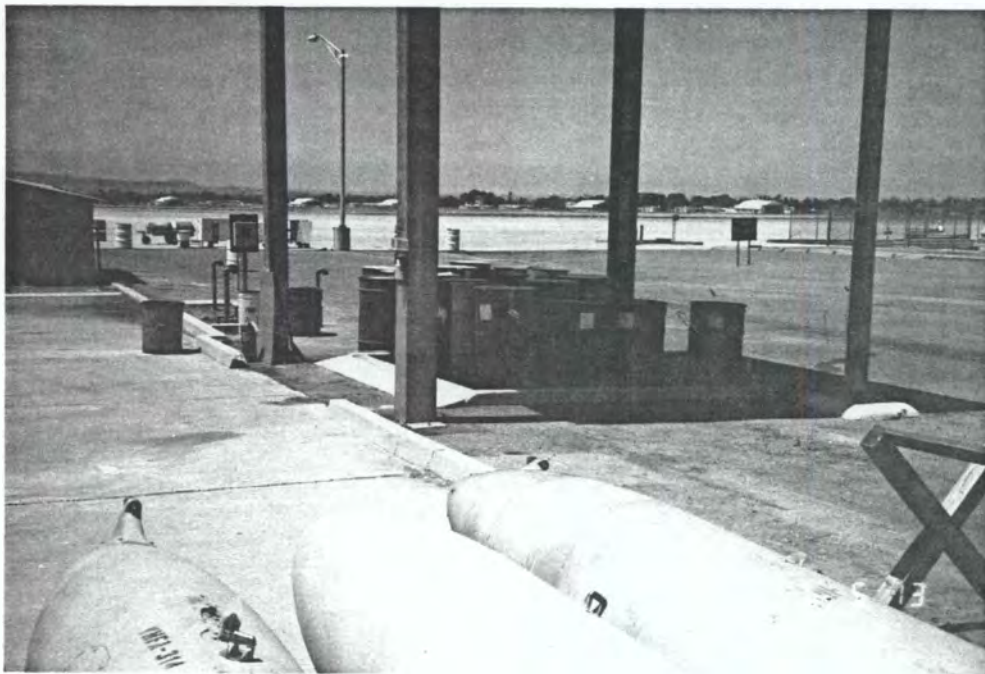
**Evaluation Form  
SWMU/Area of Concern  
Number 149**

Name: Hazardous Waste Storage Area

Location: Building 605

Size: Approximately 144 sq ft

Date of Site Visit: 13 May 91



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 149**

Unit Characteristics

A hazardous waste storage area (HWSA) is located northwest of Building 605 adjacent to the aircraft wash area (SWMU/AOC Number 150); an oil water separator (SWMU/AOC Number 151) is located approximately 11 feet to the west. The HWSA consists of a 12-ft x 12-ft concrete pad with concrete berms and an aluminum covering. A concrete access ramp is located on the south side of the HWSA. The HWSA is bordered on all sides by asphalt pavement. The edge of the concrete washpad is located approximately 2 ft south of the HWSA. Some dark stains were observed on the concrete storage pad, on the asphalt and concrete surfaces south of the HWSA, and also on the asphalt pavement north of the HWSA.

Waste Characteristics

Waste oil  
Hydraulic fluid

Possible Migration Pathways

Soil

Evidence of Release

Dark stains located on concrete storage pad and asphalt and concrete pavement bordering the HWSA

Exposure Potential

Authorized on-Station personnel

Recommendations

Although there is no evidence of a release to soil at the stained areas, this site, as a HWSA, is recommended for a sampling visit.



**Evaluation Form  
SWMU/Area of Concern  
Number 150**

Name: Aircraft Wash Area

Location: Building 605

Size: Approximately 7,000 sq ft

Date of Site Visit: 13 May 91



Period of Operation

Currently active

## **Evaluation Form SWMU/Area of Concern Number 150**

### Unit Characteristics

An aircraft wash area is located northwest of Building 605. The wash area consists of a large concrete pad with a curb on the north and east sides, and a rounded concrete berm on the west side. The east curb line extends south approximately 85 ft, to within 30 ft of Building 85. The rounded berm extends south from the north border onto the tarmac for approximately 80 ft. An approximate 12-ft break exists in the north curb to provide access from the wash area to an adjacent drum storage area (DSA) at Building 605 (SWMU/Area of Concern 149) located to the north. The wash area is sloped to the northwest to direct runoff to the oil/water separator (SWMU/Area of Concern Number 151) located near the northwest corner of the wash area. The washpad surface and the drain area in the northwest corner were covered with a thin layer of dark, moist material. The material was apparently sediment from water ponding in this area of the washpad. The concrete around this area was dark in appearance. Some discrete stains were observed on the concrete at the north side near the DSA. The wash area is bordered by asphalt pavement on the north and east, and tarmac on the south and west. Some staining was observed on the asphalt near the DSA. At the time of the visual site inspection, approximately 27 aircraft fuel drop tanks were stored in a row on the west side of wash area. The tanks were empty and no stains were visually observed on the wash pad in this area. The wash area was generally in good condition without cracks or significant defects.

### Waste Characteristics

Oily water

### Possible Migration Pathways

Storm drain  
Oil/water separator  
Soil

### Evidence of Release

None observed

### Exposure Potential

Authorized on-Station personnel



**Evaluation Form  
SWMU/Area of Concern  
Number 150**

Recommendations

The washrack is constructed of concrete that is sloped to collect the wash water in drains connected to an oil/water separator. The concrete appeared to be free of cracks or defects that would allow wash water to exit the washrack other than at the drains. No further action is recommended for this SWMU/AOC.

It should be noted that the past and present receptors of the wash water (i.e., the drainage channels via storm drain and the oil/water separator) are identified as SWMUs/AOCs recommended for a sampling visit. In addition, the adjacent DSA where some minor staining was observed outside of the wash area is recommended for a sampling visit.

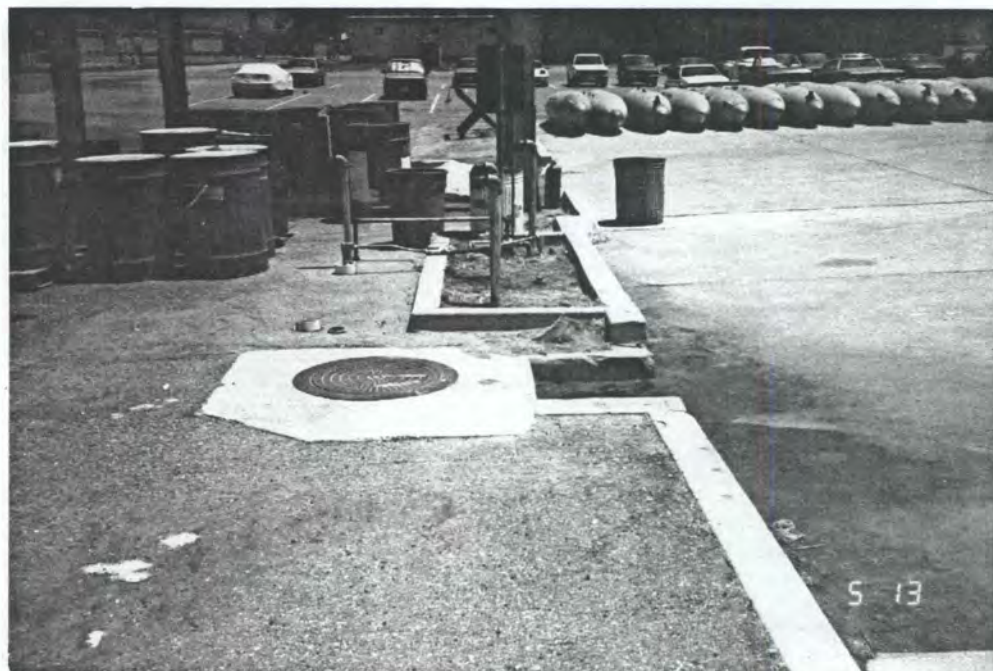
**Evaluation Form  
SWMU/Area of Concern  
Number 151**

Name: Oil/Water Separator 605-C

Location: Northwest of Building 605

Size: 100 gallons

Date of Site Visit: 13 May 1991



Period of Operation

Installed in 1984  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 151**

Unit Characteristics

An oil/water separator is located northwest of Building 605. The oil/water separator is associated with the aircraft wash area (SWMU/AOC Number 150) at Building 605. The oil/water separator is located approximately 11 ft west of a DSA (SWMU/AOC Number 149). The drain opening to the oil/water separator is located approximately 8 ft east of the northeastern corner of the bermed concrete washpad. The drain design differs from drains observed at the other oil/water separators on the Station. Instead of the typical approximately 2-ft x 2-ft grated drain opening, the oil/water separator at Building 605 has an approximate 3-in.-diameter PVC drain pipe. The pipe is positioned in the eastern side of the bermed drain inlet area, and apparently leads east to the underground oil/water separator. The drain inlet area and the washpad surface in this area were covered with a thin layer of dark, moist soil, apparently sediment from water pooling in this area of the washpad around the drain inlet. The concrete around this area appeared darkly stained.

The surface atop the underground oil/water separator consists of an 11-ft x 4-ft bermed area abutting the northern side of the concrete washpad. Several pipes protrude from the unpaved surface within this bermed area. The bermed area is bordered on the other three sides by asphalt pavement. Several pipes also protrude from the asphalt surface bordering the north side of the bermed area. A manhole enclosed in a concrete pad is located east of the bermed area and abutting the northern side of the drain inlet area. The layout of the oil/water separator beneath this area is not known.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

**Evaluation Form  
SWMU/Area of Concern  
Number 151**

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



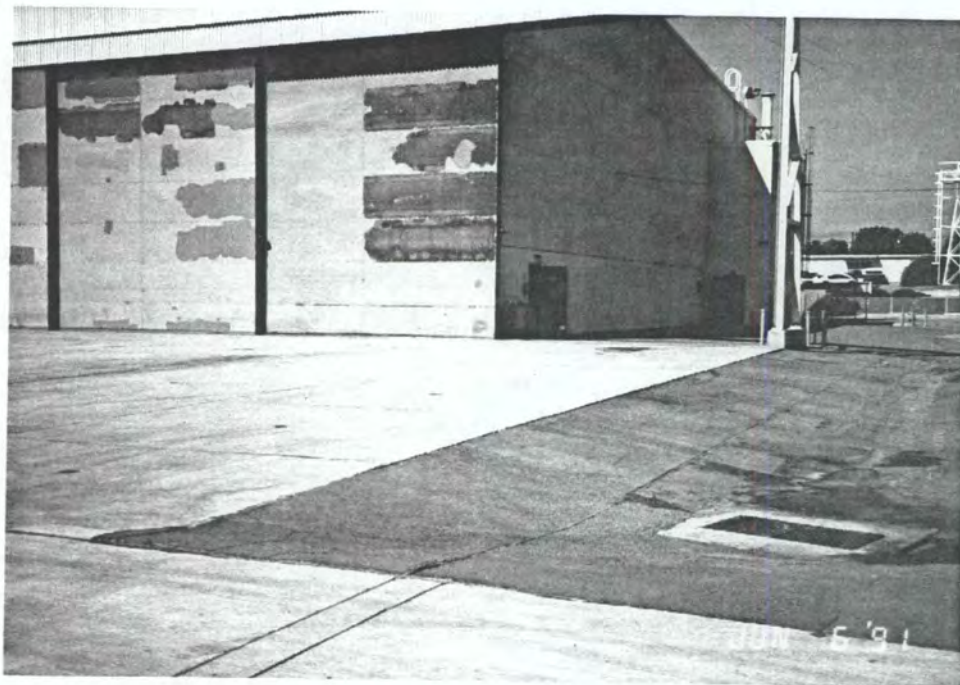
**Evaluation Form  
SWMU/Area of Concern  
Number 152**

Name: Aircraft Washrack

Location: Building 606

Size: Approximately 1,000 sq ft

Date of Site Visit: 13 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 152**

Unit Characteristics

The aircraft wash area for Building 606 is located in front of the southwestern corner of the building on the concrete parking apron. The wash area measures approximately 1,000 sq ft in size. The wash area is unbermed. It is sloped so that runoff flows in a westerly direction toward the tarmac or toward a storm drain located approximately 15 ft east of the southwestern corner of the washrack in an asphalt-paved area. The drain appears to be connected to Oil/water Separator 606-C (SWMU/AOC Number 154). The washrack is characterized with light, widespread staining on the concrete wash area, and dark staining on the asphalt surrounding the storm drain. No significant cracks were observed.

Waste Characteristics

Oily water

Possible Migration Pathway

Storm drain  
Oil/water separator  
Soil

Evidence of Release

Lightly stained wash area and area near drain

Exposure Potential

Authorized on-Station personnel

Recommendations

The washrack is constructed of concrete that is sloped to collect the wash water in drains connected to an oil/water separator. The concrete appeared to be free of cracks or defects. No further action is recommended for this SWMU/AOC.

It should be noted that the past and present receptors of the wash water (i.e., the drainage channels via storm drain and the oil/water separator) are identified as SWMUs/AOCs recommended for a sampling visit.

**Evaluation Form  
SWMU/Area of Concern  
Number 153**

Name: Drum Storage Area

Location: Building 606

Size: Unknown

Date of Site Visit: 01 May 1991

A letter from the RWQCB to Lt. Rehor dated 23 June 1989 identified a DSA near Building 606. Building 606 serves as an aircraft maintenance hangar. The ground surface bordering the building is completely paved. An HWSA (SWMU/AOC Number 255) is located approximately 100 ft south of Building 606. This HWSA is believed to be the area cited in the RWQCB letter. For a description of this HWSA, see the Evaluation Form for SWMU/AOC Number 255.



**Evaluation Form  
SWMU/Area of Concern  
Number 154**

Name: Oil/Water Separator 606-C

Location: Southeast of Building 696

Size: 100 gallons

Date of Site Visit: 13 May 1991

This oil/water separator is the same as the separators identified from records review as SWMU/AOC Numbers 163 and 190. For a description of this oil/water separator, see the Evaluation Form for SWMU/AOC Number 163.

**Evaluation Form  
SWMU/Area of Concern  
Number 155**

Name: Vehicle Washrack

Location: Near Building 616

Size: Unknown

Date of Site Visit: 25 April 1991

Building 616 is a small administrative office for the FMD Motor Transportation facility. It is located about 20 ft south of Building 298. The vehicle washrack identified with Building 616 is the same as the washrack identified at adjacent Building 758. See SWMU/AOC Number 195 for a description of this washrack.

**Evaluation Form  
SWMU/Area of Concern  
Number 156**

Name: UST 625

Location: West of Building 626

Size: 500 gallons

SWMU/AOC Number 156 is a 500-gallon waste oil UST located west of the Hobby Shop (Building 626). This tank is located within the investigation boundaries of Site 20 of the RI/FS program and therefore will be excluded from the RFA.

**Evaluation Form  
SWMU/Area of Concern  
Number 157**

Name: Vehicle Washrack

Location: Building 626

The vehicle washrack at Building 626 (Hobby Shop) is located within the investigation boundaries of RI/FS Site 20. It will be excluded from further consideration in the RFA.

**Evaluation Form  
SWMU/Area of Concern  
Number 158**

Name: Drum Storage Area

Location: Building 626

The DSA at Building 626 (Hobby Shop) is located within the investigation boundaries of RI/FS Site 20. It will be excluded from further consideration in the RFA.



**Evaluation Form  
SWMU/Area of Concern  
Number 159**

Name: Oil/Water Separator

Location: Building 626

The oil/water Separator at Building 626 (Hobby Shop) is located within the investigation boundaries of RI/FS Site 20. It will be excluded from further consideration in the RFA.

**Evaluation Form  
SWMU/Area of Concern  
Number 160**

Name: Hazardous Waste Storage Area

Location: South of Building 636

Size: 176 sq ft

Date of Site Visit: 01 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 160**

Unit Characteristics

A HWSA is located approximately 65 ft southeast of Building 636. The HWSA consists of a sandbag berm encompassing an 11-ft x 16-ft area. The berm is 1 to 2 ft in height. A canvas sheet is draped over the berm and provides the lining for the HWSA. The HWSA is located on an unpaved, unprotected soil area. The canvas is darkly stained within the bermed area. A tear in the canvas liner was observed near the southeastern corner within the HWSA. Drums within the HWSA are stored on metal pallets. The HWSA is bordered on all sides by grassy or bare soil areas. No stains on the unpaved areas in proximity to the HWSA were visually observed.

Two 55-gallon drums were located outside of the bermed area on unpaved ground. One drum contained solids, the other drum was empty. Two metal storage lockers for storage of flammable materials were located to the north and south of the HWSA. The contents of these lockers is unknown.

Waste Characteristics

Waste oil  
Absorbent with waste fuel and oil

Possible Migration Pathways

Soil

Evidence of Release

Stains on the canvas liner of the HWSA

Exposure Potential

On-Station personnel

Recommendations

Since this HWSA is located on unpaved soil covered by a liner, which is stained and has a torn section, it is likely that soil may have been impacted by spills. This HWSA is recommended for a sampling visit.



**Evaluation Form  
SWMU/Area of Concern  
Number 161**

Name: Hazardous Waste Storage Area

Location: Building 641

This HWSA is the same as the HWSA identified at Building 115. See the Evaluation Form for SWMU/AOC Number 39 for a description of this HWSA.

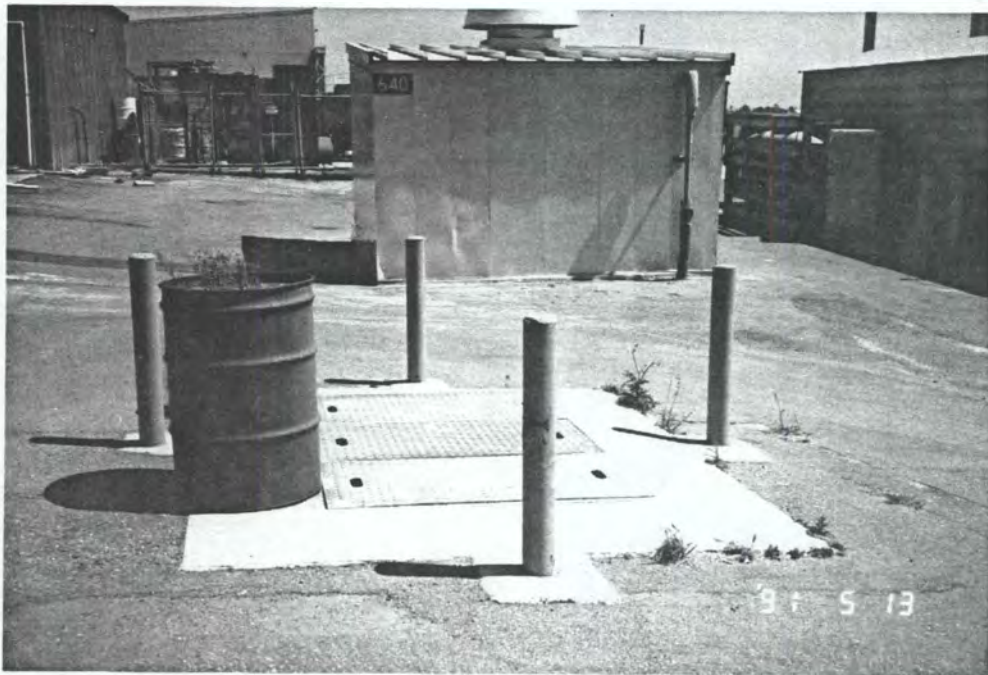
**Evaluation Form  
SWMU/Area of Concern  
Number 162**

Name: Underground Storage Tank 643-A

Location: Building 643

Size: 185 gallons

Date of Site Visit: 01 May 1991



Period of Operation

Installed in 1982  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 162**

Unit Characteristics

Tank 643-A is a 185-gallon steel-wall UST. The tank was installed in 1982 along with Oil/water Separator 643-B (SWMU/AOC Number 163). Tank 643-A is used to store waste oil residue extracted from Oil/water Separator 643-B. Because the tank is located underground, the physical condition of the tank could not be visually observed. See Evaluation Form SWMU/AOC Number 163 for a description of the locational characteristics of the tank.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release from the UST was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. A sampling visit is recommended for this tank.



**Evaluation Form  
SWMU/Area of Concern  
Number 163**

Name: Oil/Water Separator 643-B

Location: Between Buildings 643 and 696

Size: 100 gallons

Date of Site Visit: 13 May 1991



Period of Operation

Installed in 1982  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 163**

Unit Characteristics

Oil/water Separator 643-B is located between Buildings 643 and 696. The oil/water separator was installed in 1982. It consists of a 100-gallon concrete-wall tank. The location of the oil/water separator is identified by a three-piece galvanized steel cover. The entire cover measures about 5 x 10 ft. The cover protects the vents and discharge pipes associated with the oil/water separator. The steel cover is bordered by a 1-ft concrete surface, which is bordered by asphalt. Because the oil/water separator is located underground, the physical condition of the separator could not be observed. The drain leading to the oil/water separator appears to be located approximately 10 ft south of the washrack at Building 606 (SWMU/AOC Number 152).

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release from the UST was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. A sampling visit is recommended for this tank.



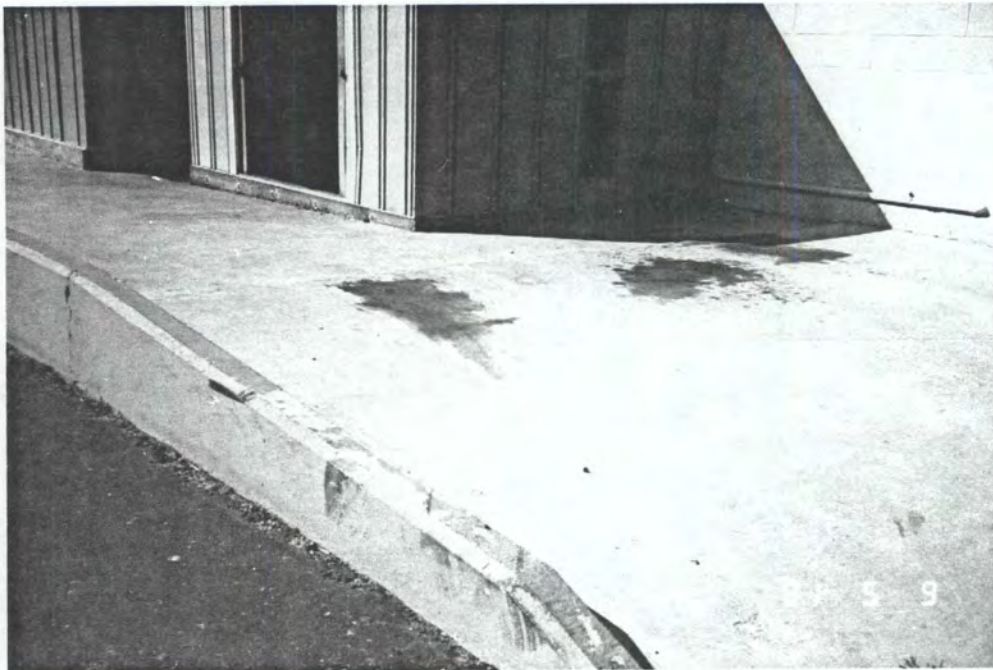
**Evaluation Form  
SWMU/Area of Concern  
Number 164**

Name: Vehicle Washrack

Location: Adjacent to the west wall of Building 651

Size: 465 sq ft

Date of Site Visit: 09 May 1991



Period of Operation

Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 164**

Unit Characteristics

A vehicle washrack is located adjacent to the western wall of Building 652. The washrack consists of a 15-ft x 31-ft concrete wash pad, which is elevated approximately 2 ft. Concrete ramps extend approximately 9 ft north and south of the pad. The pad has a concrete berm along the western side, which also borders the concrete ramps. A drain leading to an oil/water separator (SWMU/AOC Number 169) is located in the center of the washpad. A liquid approximately 1 ft below grade was observed in the drain. The liquid appeared green in color, resembling antifreeze. The pad is bordered by asphalt pavement on the western side and on the northern and southern sides beyond the concrete ramps, and abuts the western wall of Building 651 to the east. The washrack is no longer active.

According to the Assistant Manager at the service station, approximately 10 drums of unknown waste types were formerly stored on the northeastern portion of the washrack. This individual stated that the removal of the drums was completed approximately 6 months prior to the VSI. A metal storage shed currently occupies the former storage area. The Assistant Manager also said that several 55-gallon drums of waste oil and unknown wastes are currently kept in the storage shed. At the time of the VSI, the storage shed was locked and could not be accessed.

Waste Characteristics

Oily water  
Antifreeze  
Unknown wastes (probably waste automotive fluids)

Possible Migration Pathways

Storm drain  
Oil/water separator  
Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

**Evaluation Form  
SWMU/Area of Concern  
Number 164**

Recommendations

Although there is no evidence of a release, this washrack has been used for storage of hazardous waste. A sampling visit is recommended for this reason.

It should also be noted that the receptors of the wash water (i.e., the drainage channels via the storm drain and the oil/water separator) are identified as SWMUs/AOCs recommended for a sampling visit.



**Evaluation Form  
SWMU/Area of Concern  
Number 165**

Name: Drum Storage Area

Location: Adjacent to the western wall of Building 651

Size: Approximately 100 sq ft

Date of Site Visit: 09 May 1991

A letter from the RWQCB to Lt. Rehor dated 23 June 23 1989 identified a DSA located near Building 651. Building 651 currently operates as an automobile service station. The DSA referenced in this letter is located within the vehicle washrack area (SWMU/AOC Number 164) adjacent to the western wall of Building 651. See the Evaluation Form for SWMU/AOC Number 164 for a description of this DSA located at Building 651.

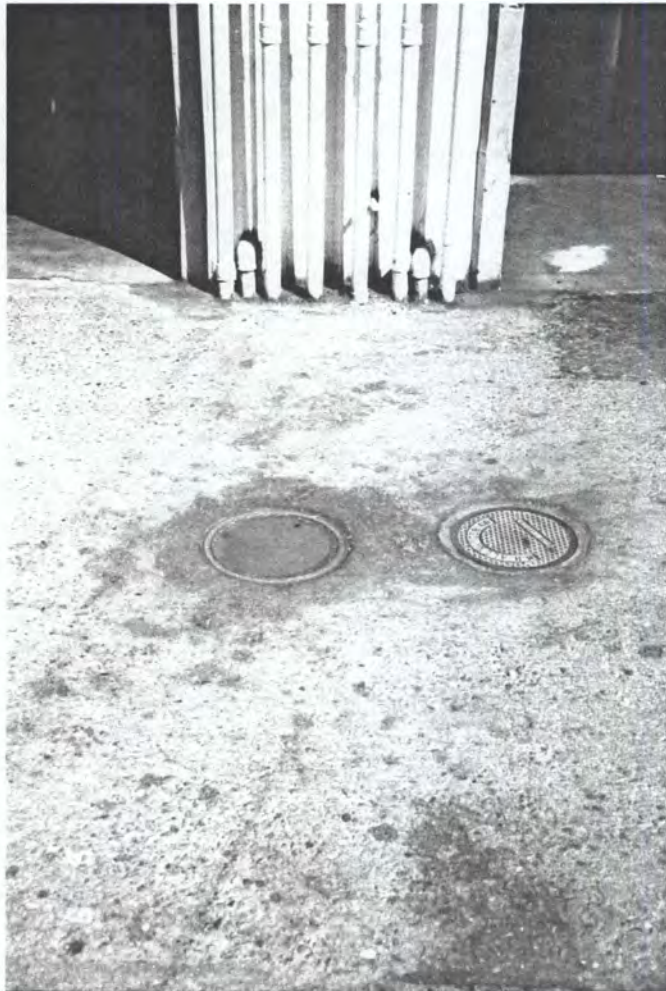
**Evaluation Form  
SWMU/Area of Concern  
Number 166**

Name: Underground Storage Area 651-5

Location: North of Building 651

Size: 500 gallons

Date of Site Visit: 09 May 1991



Period of Operation

Installed in 1971

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 166**

Unit Characteristics

UST 651-5 is located north of Building 651 between the third and fourth work bays of the automobile service station. Based on the site visit, the 500-gallon steel tank is used to store product oil. (A report by EG&G listed this tank as storing waste oil.) It was installed in 1971 and is currently active. The fill box for the tank is identified by a 1-ft-diameter metal cover at grade, located approximately 5 ft from the northern wall of Building 651. The metal cover is situated approximately 1 ft north of the metal cover for UST 651-6 (SWMU/AOC Number 167). The ground surface around the covers is asphalt-paved. A dark circular stain extends approximately 6 in. around the metal cover. The vents for the tank are located directly north of the fill box, adjacent to the northern wall of Building 651.

Waste Characteristics

Product oil

Possible Migration Pathways

Soil

Evidence of Release

Stained asphalt around fill box

Exposure Potential

On-Station personnel

Recommendations

This UST passed a tank test conducted in 1990 under CTO #0006-01 in the Navy CLEAN Program. The stained asphalt around the fill box represents minor spillage during loading/unloading operations that has not impacted underlying soil. No further action is recommended for this SWMU/AOC.



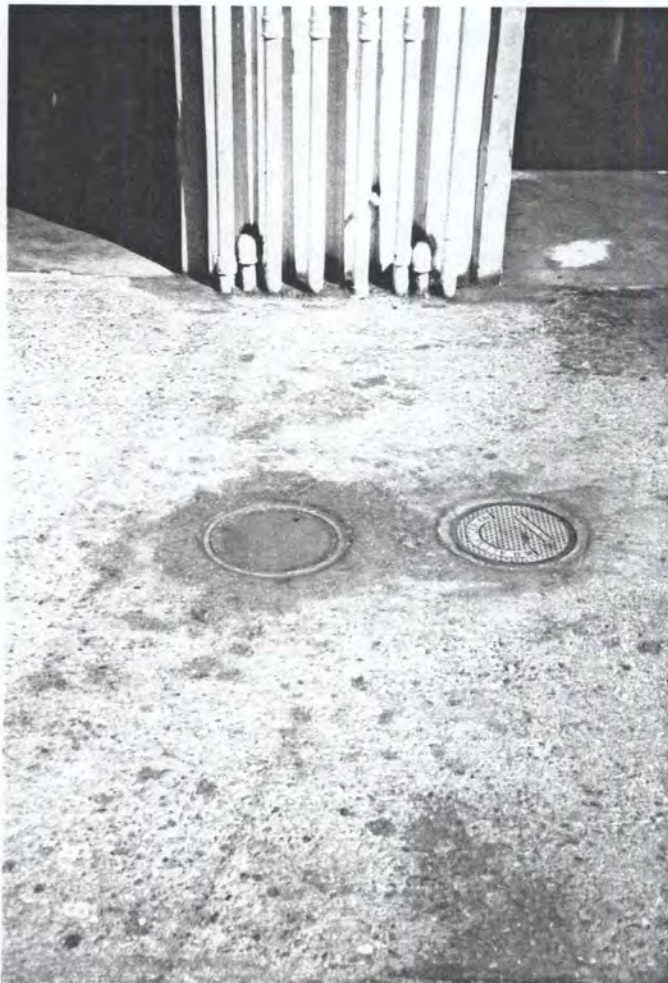
**Evaluation Form  
SWMU/Area of Concern  
Number 167**

Name: Underground Storage Area 651-6

Location: North of Building 651

Size: 500 gallons

Date of Site Visit: 09 May 1991



Period of Operation

Installed in 1971  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 167**

Unit Characteristics

UST 651-6 is located north of Building 651 between the third and fourth work bays of the automobile service station. Based on the site visit, the 500-gallon steel tank is used to store product oil. (A report by EG&G listed this tank as storing waste oil.) It was installed in 1971 and is currently active. The fill box for the tank is identified by a 1-ft-diameter metal cover at grade, located approximately 5 ft from the northern wall of Building 651. The metal cover is situated approximately 1 ft south of the metal cover for UST 651-5 (SWMU/AOC Number 166). The ground surface around the covers is asphalt-paved. Some stains on the asphalt around the covers is apparent. The vents for the tank are located directly north of the fill box, adjacent to the northern wall of Building 651.

Waste Characteristics

Product oil

Possible Migration Pathways

Soil

Evidence of Release

Stained asphalt around fill box

Exposure Potential

On-Station personnel

Recommendations

This UST passed a tank test conducted in 1990 under CTO #0006-01 in the Navy CLEAN Program. The stained asphalt around the fill box represents minor spillage during loading/unloading operations that has not impacted underlying soil. No further action is recommended for this SWMU/AOC.



**Evaluation Form  
SWMU/Area of Concern  
Number 168**

Name: Underground Storage Area 651-7

Location: South of Building 651

Size: 500 gallons

Date of Site Visit: 09 May 1991



Period of Operation

Installed in 1971  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 168**

Unit Characteristics

UST 651-7 is located on the southern side of Building 651, situated opposite the location of Tanks 651-5 and 651-6 (SWMU/AOC Numbers 166 and 167, respectively). The 500-gallon steel tank was installed in 1971 and is currently used to store waste oil. The fill box location is identified by a 3-in.-diameter pipe protruding approximately 4 in. from grade. The fill pipe is located in the center of a 6-ft x 6-ft concrete pad. The pad is darkly stained over its entire area. The pad is bordered to the east, west, and south by asphalt pavement; the northern side of the pad abuts a pillar between the third and fourth work bays of the service station at the southern wall of Building 651. The asphalt pavement bordering the pad has dark stains, but has no cracks.

Waste Characteristics

Waste oil

Possible Migration Pathways

Soil

Evidence of Release

Stains on pavement around fill box

Exposure Potential

On-Station personnel

Recommendations

This UST passed a tank test conducted in 1990 under CTO #0006-01 in the Navy CLEAN Program. The stained pavement reflects minor spillage during loading/unloading operations that has not impacted underlying soil. No further action is recommended for this SWMU/AOC.

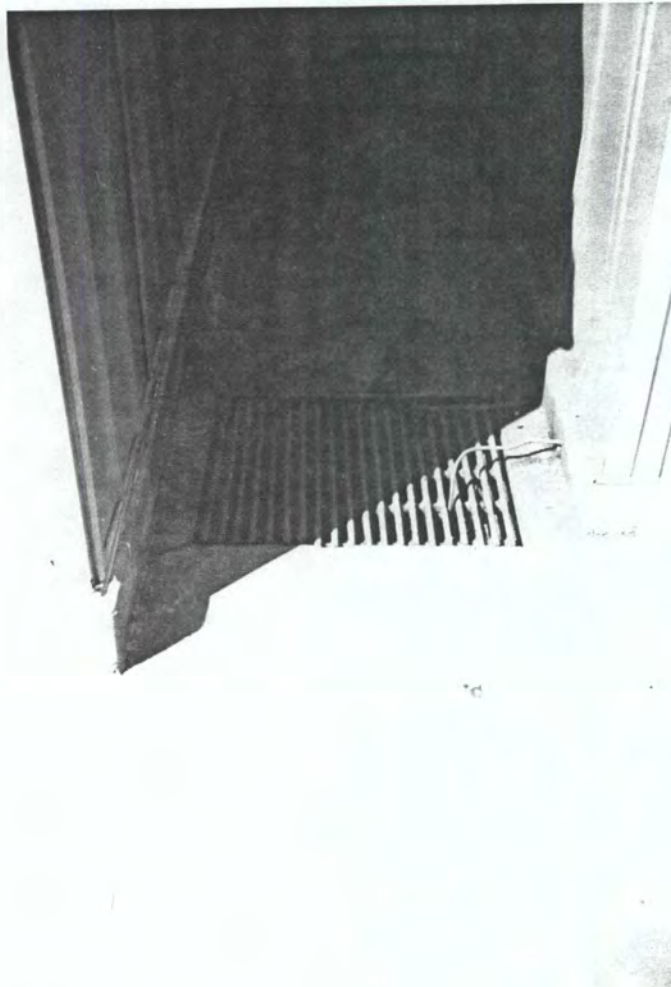
**Evaluation Form  
SWMU/Area of Concern  
Number 169**

Name: Oil/Water Separator 651-8

Location: Building 651

Size: 500 gallons

Date of Site Visit: 09 May 1991



Period of Operation

Installed 1971  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 169**

Unit Characteristics

A 500-gallon concrete oil/water separator is located at the eastern end of Building 651. The oil/water separator is fed from two drains located near the western wall of Building 651. One drain is located inside the service bay area and a second drain is located in the center of a washrack (SWMU/AOC Number 164) situated adjacent to the building's western wall. The washrack is currently inactive. Antifreeze was observed in the drain at the washrack.

Waste Characteristics

Oily water  
Automobile antifreeze

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 170**

Name: Drum Storage Area

Location: Near Building 655

Size: Unknown

Date of Site Visit: 23 April 1991

A DSA near Building 655 was identified in a letter from the RWQCB to Lt. Mike Rehor dated 23 June 1989 and on an SPCC map (no date). Building 655 appeared to be an equipment maintenance and machine shop. The entire area around Building 655 was inspected during the VSI, but no evidence of a DSA was observed.

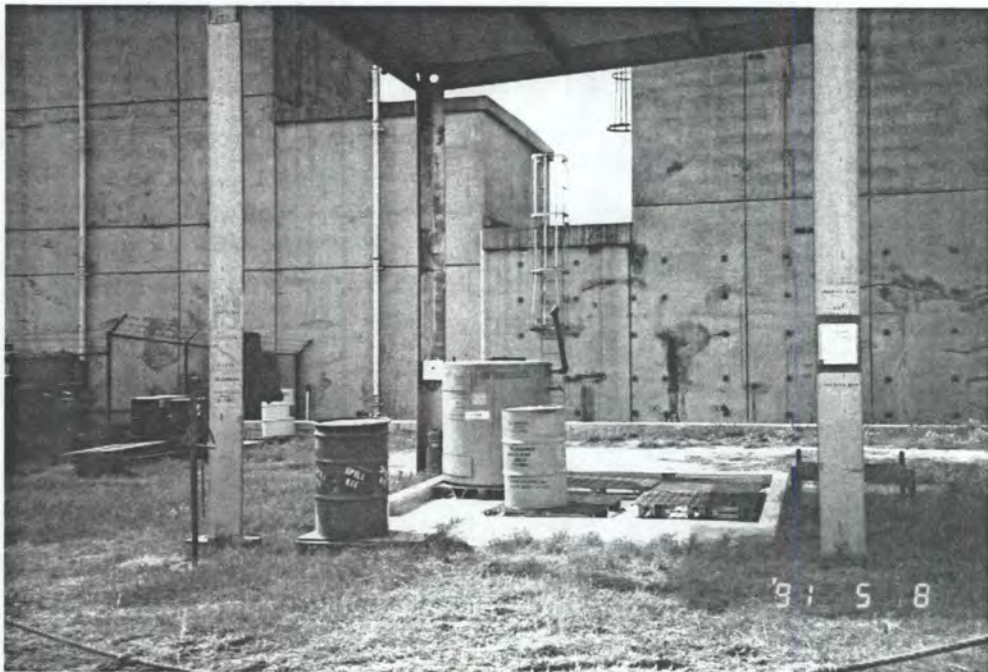
**Evaluation Form  
SWMU/Area of Concern  
Number 171**

Name: Hazardous Waste Storage Area

Location: South of Building 658

Size: Approximately 144 sq ft

Date of Site Visit: 08 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 171**

Unit Characteristics

An HWSA is located approximately 35 ft south of Building 658. The HWSA consists of a concrete storage pad and a concrete berm with an aluminum roof. A sump is located in the southwestern corner of the concrete pad. The concrete pad has dark discoloration around the sump drain. No significant cracks in the concrete pad or berm were observed.

The HWSA is bordered by unpaved soil on all sides. An area of stained soil was observed near the northeastern corner of the HWSA. Also evidence of stressed vegetation was observed on the southern side of the HWSA.

Waste Characteristics

Waste oil  
JP-5

Possible Migration Pathways

Soil

Evidence of Release

Stained soil near HWSA

Exposure Potential

On-Station personnel

Recommendations

A release of waste to the soil surrounding this HWSA was observed during the site inspection. A sampling visit is recommended for this HWSA.



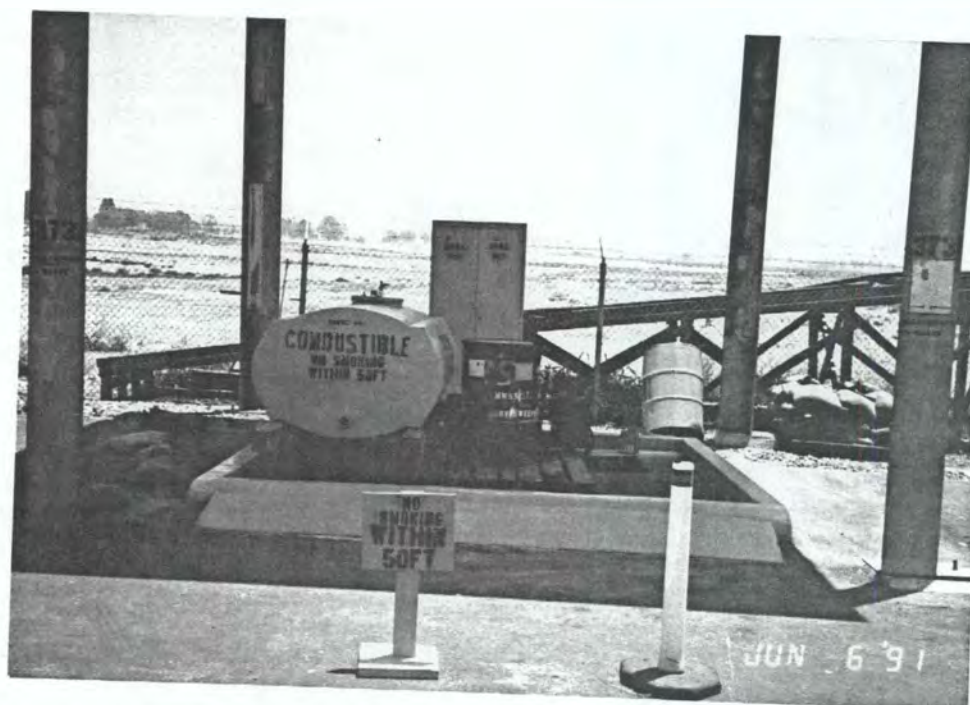
**Evaluation Form  
SWMU/Area of Concern  
Number 172**

Name: Hazardous Waste Storage Area

Location: Southeast of Building 672

Size: 144 sq ft

Date of Site Visit: 25 April 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 172**

Unit Characteristics

The HWSA is located near the southeastern corner of the vehicle storage yard for Buildings 671 and 672. The HWSA measures 10 ft x 10 ft. It consists of a concrete storage pad surrounded by a recently constructed 6-in. concrete berm. Previously, the HWSA had a secondary berm consisting of sandbags piled about 1 to 2 ft high. The HWSA has a sump located near the southwestern corner of the storage pad. An aluminum roof covers the entire storage area. The HWSA is bordered on the outside by a small unpaved area on the southeastern side and asphalt on the other three sides.

A 250-gallon, aboveground waste oil storage tank is located inside the bermed storage area. The tank is elevated about 2 ft above the storage surface. Other wastes stored inside the storage area include hydraulic fluid, JP-5, and Dry-Sweep.

The storage pad had several dark stains; however, the stains did not appear to extend outside the storage area.

Waste Characteristics

Waste oil  
Hydraulic fluid  
JP-5  
Dry-Sweep

Possible Migration Pathways

Soil

Evidence of Release

Stained storage pad

Exposure Potential

Authorized on-Station personnel

**Evaluation Form  
SWMU/Area of Concern  
Number 172**

Recommendations

Although no evidence of a release outside of the HWSA was observed, the identified HWSAs at MCAS El Toro are typically being suggested for a sampling visit in this RFA. Therefore, a sampling visit is recommended for this HWSA.



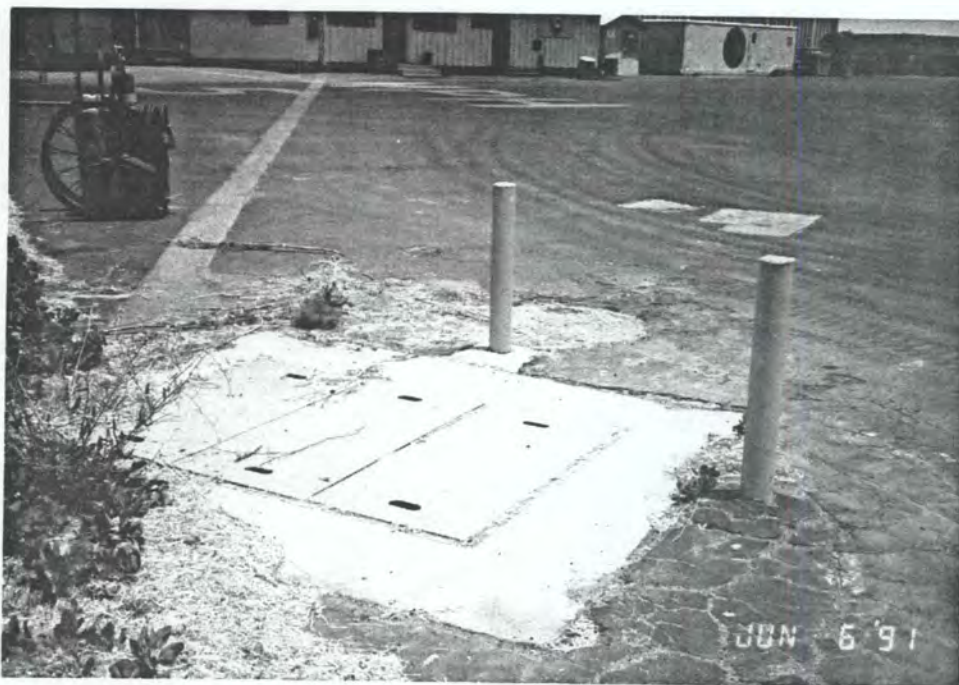
**Evaluation Form  
SWMU/Area of Concern  
Number 173**

Name: Oil/Water Separator 671

Location: West of Building 672

Size: Unknown

Date of Site Visit: 25 April 1991



Period of Operation

Unknown

**Evaluation Form  
SWMU/Area of Concern  
Number 173**

Unit Characteristics

Oil/water Separator 671 is located adjacent to the northwestern facility boundary fence and 5 ft to 10 ft west of the Stations's main gate. The location of the oil/water separator is identified by a three-piece galvanized steel cover. The entire cover measures about 5 x 10 ft. The cover protects the vents and discharge pipes associated with the oil/water separator. The steel cover is outlined by a 1-ft concrete surface, which is bordered by asphalt. Because the oil/water separator is located underground, its physical condition could not be observed.

A cluster of three 9-in.-diameter steel covers are located about 25 ft east of the oil/water separator. Two of the covers are labeled as being fill boxes. The covers are free of staining and appear as though they have not been lifted for awhile.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.

**Evaluation Form  
SWMU/Area of Concern  
Number 174**

Name: Underground Storage Tank 672

Location: South of Building 672

Size: 500 gallons

Date of Site Visit: 25 April 1991

Tank 672 is an underground waste JP-5 storage tank. The date of installation is unknown. The tank is constructed of carbon steel material and has a 500-gallon capacity. According to the Underground Storage Tank Survey Report (1990) by EG&G, Tank 672 is located between the southern side of Building 672 and the facility boundary fence. This area is approximately 50 to 60 ft wide and asphalt-paved. The location of the tank identified by the EG&G report was inspected, but no evidence of Tank 672 was found. In addition, drawings at the Station's vault did not provide information to locate this tank.



**Evaluation Form  
SWMU/Area of Concern  
Number 175**

Name: Oil/Water Separator 672-A

Location: Northeast of Building 672

Size: 100 gallons

Date of Site Visit: 25 April 1991



Period of Operation

Installed in 1982  
Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 175**

Unit Characteristics

Tank 672-A is located 10 ft northwest of Tank 672-B. Tank 672-A is a 1,000-gallon steel-wall oil/water separator. It was installed in 1982. The tank is located 20 ft northeast of Building 672. The location of the tank is identified as an 18-in.-diameter steel cover encircled by a 3-ft x 3-ft concrete pad. The tank cover is painted red, and the concrete surface is painted yellow. The asphalt surface encircling the concrete pad is eroded in the area immediately next to the concrete pad. Since the oil/water separator is located underground, the physical condition of the separator could not be visually observed.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

Stained asphalt near tank cover

Exposure Potential

Authorized on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. There were some stains on the concrete and asphalt in the area, and the asphalt was in poor condition. A sampling visit is suggested for this UST.



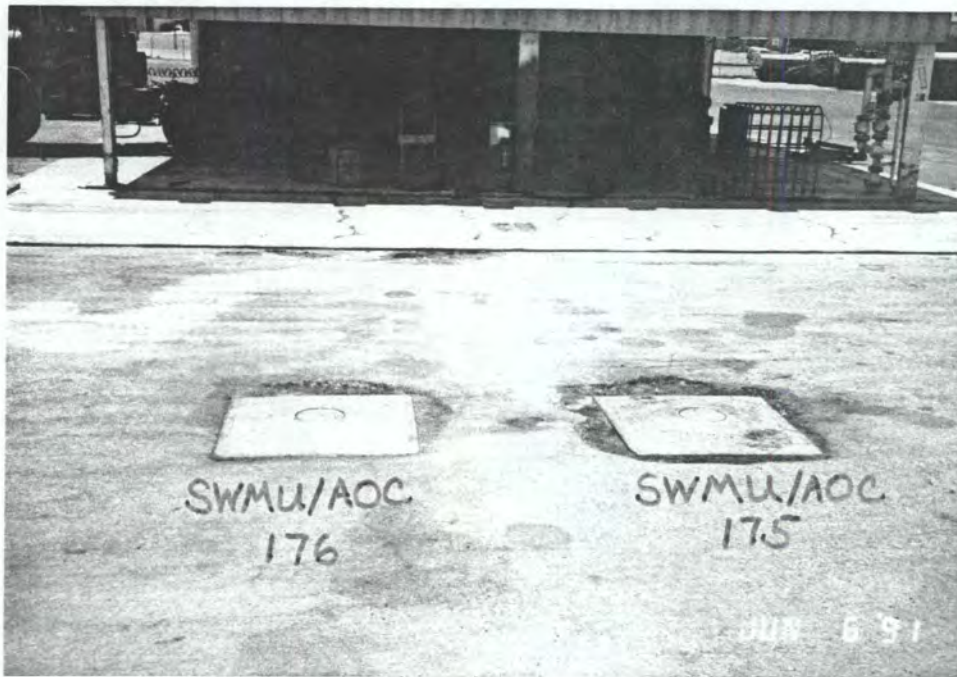
**Evaluation Form  
SWMU/Area of Concern  
Number 176**

Name: Underground Storage Tank 672-B

Location: Northeast of Building 672

Size: 1,000 gallons

Date of Site Visit: 25 April 1991



Period of Operation

Installed in 1982  
Currently inactive



**Evaluation Form  
SWMU/Area of Concern  
Number 176**

**Unit Characteristics**

Tank 672-B is located 10 ft southeast of Tank 672-A and 20 ft northeast of Building 672. Tank 672-B is a 1,000-gallon, steel-wall, underground waste oil storage tank. It was installed in 1982. The location of the tank is identified by an 18-in.-diameter steel cover encircled by a 3-ft x 3-ft concrete pad. The tank cover is painted red, and the concrete surface is painted yellow. The asphalt surface encircling the concrete pad is eroded in the area immediately next to the concrete pad. Since the tank is located underground, its physical condition could not be visually observed.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

Stained asphalt near tank cover

Exposure Potential

Authorized on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release from the UST was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. There were some stains on the concrete and asphalt in the area, and the asphalt was in poor condition. A sampling visit is recommended for this SWMU/AOC.

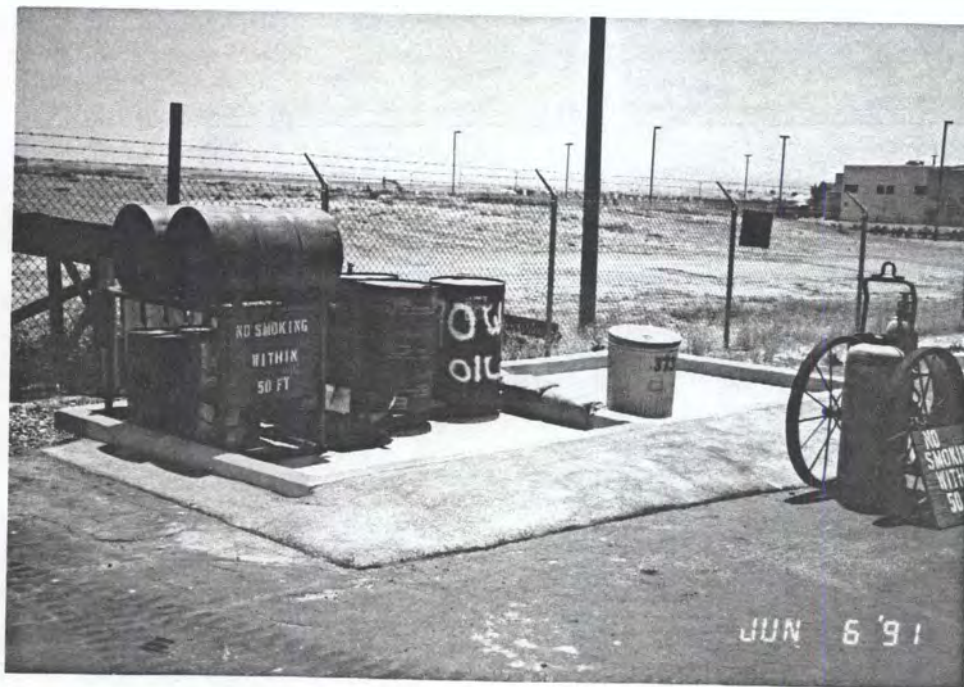
**Evaluation Form  
SWMU/Area of Concern  
Number 177**

Name: Drum Storage Area (east paved)

Location: Southeast of Building 672

Size: 250 sq ft

Date of Site Visit: 25 April 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 177**

Unit Characteristics

The DSA is located adjacent to the southeastern boundary fence of the vehicle parking area for Buildings 671 and 672. The DSA measures 10 ft x 25 ft. It consists of a concrete storage surface surrounded by a 6-in. concrete berm. The storage surface is divided into two sections by a 6-in. berm. An asphalt access ramp leads into the DSA from the northern side of the storage area. The DSA is bordered by a small unpaved area on the southeastern side and asphalt on the other three sides.

The DSA is used to store product materials such as motor oil, hydraulic fluid, and grease. The storage area appeared relatively new. There are no significant stains or cracks in the concrete storage surface or the berm surrounding the storage area.

Waste Characteristics

The following products are stored in the DSA:

- Lubrication oil
- Hydraulic fluid
- Grease

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

No further action is recommended for this DSA.



**Evaluation Form  
SWMU/Area of Concern  
Number 178**

Name: Vehicle Washrack

Location: South of Building 673

Size: 589 sq ft

Date of Site Visit: 02 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 178**

Unit Characteristics

A vehicle washrack is located approximately 30 ft southwest of Building 163. The washrack consists of a concrete pad measuring approximately 19 ft x 31 ft. The concrete pad is bordered by an approximately 2-in.-high concrete berm along the southern and western sides, and along a portion of the northern side. The concrete pad and berm are darkly stained over most of their area. No significant cracks were observed in the concrete pad or berm. A drain leading to an oil/water separator is located in the central-western portion of the concrete pad. The covers of the oil/water separator are located approximately 2 ft north of the concrete pad. The washrack is bordered on the southern and western sides by unpaved areas, on the northern side by asphalt pavement, and on the eastern side by a utility building containing steam cleaning equipment, presumably used at the washrack. The asphalt bordering the washrack has numerous dark stains, but contains no significant cracks.

Waste Characteristics

Oily water

Possible Migration Pathways

Storm drain  
Oil/water separator  
Surface soil

Evidence of Release

Stained concrete pad and asphalt bordering the washrack

**Evaluation Form  
SWMU/Area of Concern  
Number 178**

Exposure Potential

Authorized on-Station personnel

Recommendations

The washrack is constructed of concrete that is sloped to collect the wash water in a drain connected to an oil/water separator. The concrete appeared to be free of cracks or defects that would allow wash water to exit the washrack in places other than at the drain. There are some stains on the asphalt outside of the washrack area, but the asphalt does not have any significant cracks or defects. No further action is recommended for this SWMU/AOC.

It should be noted that the past and present receptors of the wash water (i.e., the drainage channels via storm drain and the oil/water separator) are identified as SWMUs/AOCs recommended for a sampling visit.



**Evaluation Form  
SWMU/Area of Concern  
Number 179**

Name: Oil/Water Separator 673-A

Location: South of Building 673

Size: 100 gallons

Date of Site Visit: 02 May 1991



Period of Operation

Installed in 1982  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 179**

Unit Characteristics

An oil/water separator is located adjacent to the washrack at Building 673 (SWMU/AOC Number 178). The oil/water separator is located at the northern side of the northwestern corner of the washrack. The ground surface above the oil/water separator consists of a 5-ft x 8-ft concrete pad with three 2-ft x 2-ft steel covers. The edge of the concrete pad is located approximately 1 ft from the washrack berm. The oil/water separator appears to be a 3-stage separator. The surface bordering the concrete pad consists of asphalt pavement. Some dark areas are present on the surrounding asphalt pavement.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

Stains on nearby asphalt pavement

Exposure Potential

Authorized on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. Stains on the nearby asphalt pavement indicate some spillage in the area although it does not appear that the underlying soil was impacted. A sampling visit is suggested for this UST to verify whether the UST and/or the spills have resulted in a release to soil.



**Evaluation Form  
SWMU/Area of Concern  
Number 180**

Name: Underground Storage Tank 673-B

Location: South of Building 673

Size: 300 gallons

Date of Site Visit: 02 May 1991



Period of Operation

Installed in 1982  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 180**

Unit Characteristics

Tank 673-B is a 300-gallon waste oil tank located at the southern side of Building 673, adjacent to Oil/water Separator 673-A (SWMU/AOC Number 179). A description of the location of this tank is given in the Evaluation Form for SWMU/AOC Number 179. There were stains on the asphalt near this tank. Since the tank is located underground, its physical condition could not be observed.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. Stains on the nearby asphalt pavement indicate some spillage in the area although it does not appear that the underlying soil was impacted. A sampling visit is suggested for this UST to verify whether the UST and/or the spills have resulted in a release to soil.

**Evaluation Form  
SWMU/Area of Concern  
Number 181**

Name: Landfarming Site

Location: Adjacent to DRMO Storage Yard #3, near Building 673

Size: Approximately 3 acres

Date of Site Visit: 02 May 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 181**

Unit Characteristics

A landfarming area for remediating petroleum-contaminated soil was identified near Building 673 through interviews with current on-Station personnel. The landfarming area is located east of Building 673, adjacent to the southeastern corner of DRMO Storage Yard #3, and is paved. The landfarming area consists of various piles of soil, approximately 4 to 6 ft in height. There are two main piles, divided to the north and south by a dirt road extending east from "Z" Street. The piles consist of dirt, broken asphalt and concrete chunks, sand, and gravel. Miscellaneous garbage is also mixed in the soil piles. The piles support sparse vegetative growth.

Waste Characteristics

Petroleum-contaminated soil

Possible Migration Pathways

Surface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

Although there is no current evidence of a release at the landfarming site, it is not known whether a release may have occurred in the past. A sampling visit is recommended for this site.



**Evaluation Form  
SWMU/Area of Concern  
Number 182**

Name: Drum Storage Area

Location: East of Building 673

Size: 500 sq ft

Date of Site Visit: 02 May 1991

A 1980 DHS photograph identifies an approximately 500-sq-ft DSA located east of Building 673. The photograph shows about ten 55-gallon drums stored directly on bare soil or stored on wood pallets atop bare soil. The area around the DSA appears without vegetation. Several dark soil patches are apparent in the photograph. Building 673 appears in the distant background of the photograph. An accurate location of the former DSA could not be identified from the photograph or during the visual site inspection.

**Evaluation Form  
SWMU/Area of Concern  
Number 183**

Name: Drum Storage Area

Location: East of Building 673

Size: 400 sq ft

Date of Site Visit: 02 May 1991

A 1980 DHS photograph identifies an approximately 400-sq-ft DSA located east of Building 673. The photograph shows about twelve 55-gallon drums stored directly on bare soil or stored on pallets atop bare soil. Some dark and light areas of apparently stained soil appear in the photograph. The stained areas are without vegetation. An accurate location of the former DSA could not be identified from the photograph or during the visual site inspection.

**Evaluation Form  
SWMU/Area of Concern  
Number 184**

Name: Drum Storage Area

Location: East of Building 673

Size: 240 sq ft

Date of Site Visit: 02 May 1991

A 1980 DHS photograph identifies an approximately 240-sq-ft DSA located east of Building 673. The photograph shows numerous 55-gallon drums stored directly on bare soil or stored on pallets atop bare soil. The soil area around the DSA is sparsely vegetated. No stained areas are apparent in the photograph. An accurate location of the former DSA could not be identified from the photograph or during the visual site inspection.



**Evaluation Form  
SWMU/Area of Concern  
Number 185**

Name: Drum Storage Area

Location: North of Building 673

Size: 600 sq ft

Date of Site Visit: 02 May 1991

A 1980 DHS photograph identifies a 600-sq-ft DSA located north of Building 673. The photograph shows numerous 55-gallon drums stored on wood pallets atop unpaved ground. No vegetation is present around the DSA. No surface stains are apparent in the photograph. An accurate location of the former DSA could not be identified from the photograph or during the visual site inspection.

**Evaluation Form  
SWMU/Area of Concern  
Number 186**

Name: Hazardous Waste Storage Area 673T3

Location: East of Building 673

Size: 144 sq ft

Date of Site Visit: 02 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 186**

Unit Characteristics

The HWSA 673T3 is located southeast of Building 673. The HWSA consists of a 12-ft x 12-ft concrete pad. The pad has concrete berms and an access ramp on the western side. A sump is located in the northwestern corner of the pad. The HWSA has an aluminum roof covering. An approximately 250-gallon waste oil bowser was stored in the HWSA along with numerous 55-gallon drums. The concrete pad and berm have many dark stains. It was evident that releases over the berm have occurred in the past. The HWSA is bordered on all four sides by asphalt pavement. The surrounding asphalt has many stains, especially near the southeastern and northwestern corners of the HWSA. Two full 55-gallon drums of unknown contents were present on the asphalt adjacent to the southeastern side of the concrete pad.

Waste Characteristics

Waste oil  
Turbine shaft oil  
Hydraulic fluid

Possible Migration Pathways

Soil

Evidence of Release

Stains on the concrete storage pad, berm, and asphalt pavement bordering the concrete pad

Exposure Potential

Authorized on-Station personnel

Recommendations

Drums of hazardous waste have historically been stored outside of this HWSA. Evidence of a release is indicated by the stains on the asphalt. It is not known if soil has been impacted by past releases. This HWSA is recommended for a sampling visit.



**Evaluation Form  
SWMU/Area of Concern  
Number 187**

Name: Underground Storage Tank 674

Location: Bee Canyon Wash at Station Boundary

Size: 500 gallons

Date of Site Visit: 18 April 1991



Period of Operation

Installed in 1982

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 187**

Unit Characteristics

Tank 674 is located near the southwestern boundary of the Station at the end of Bee Canyon Wash. The UST is associated with Oil/water Separator 676 (SWMU/AOC Number 189) and is used to store waste oil separated from the water that flows through Bee Canyon Wash. The tank is 500 gallons in capacity and is constructed of concrete. Because the tank is located underground, its physical condition could not be visually observed.

At the time of the site visit, the unlined portion of the drainage ditch was being dredged. The excavated soil was being placed in large piles on the western side of the channel. There was a stratum of garbage and a noticeable glass layer running the length of the western bank. See Evaluation Form for SWMU/AOC Number 4 for a description of Bee Canyon Wash.

Waste Characteristics

Waste oil

Migration Pathways

Soil and surface water

Evidence of Release

None observed

Exposure Potential

Off- and on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for the UST.



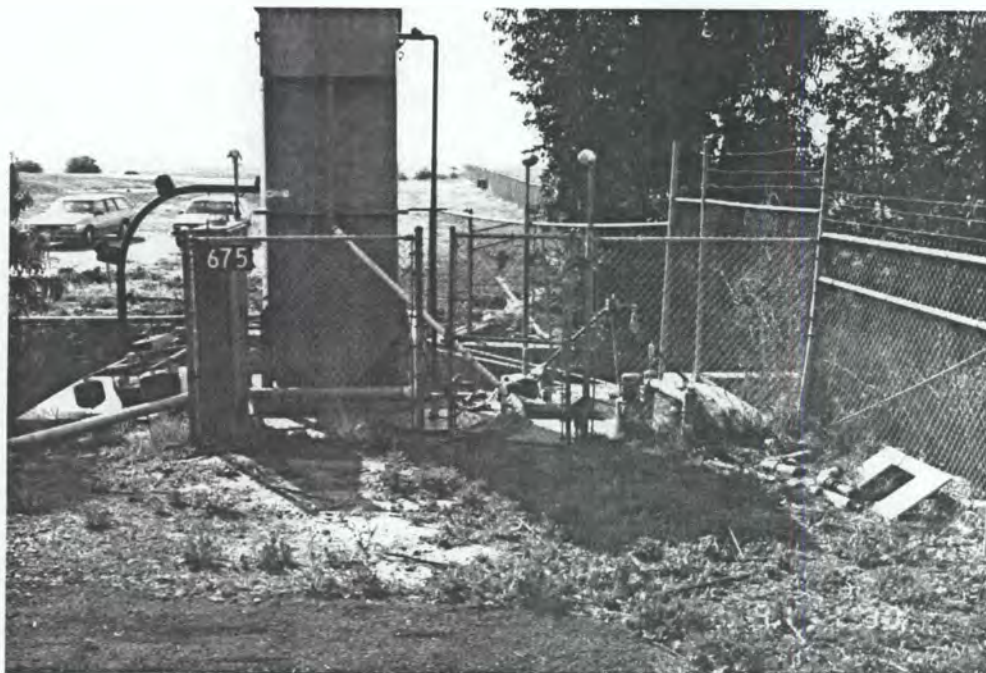
**Evaluation Form  
SWMU/Area of Concern  
Number 188**

Name: Waste Oil Tank 675-A

Location: Agua Chinon Wash at the Station Boundary

Size: 500 gallons

Date of Site Visit: 30 April 1991



Period of Operation

Installed in 1982  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 188**

Unit Characteristics

Tank 675-A is located near the southwestern boundary of the Station at the end of the Agua Chinon Wash. The UST is associated with Oil/water Separator 675-B (SWMU/AOC Number 292) and is used to store waste oil separated from the water that flows through the Agua Chinon Wash. The tank is 500 gallons in capacity and is constructed of concrete. Because the tank is located underground, its physical condition could not be visually observed.

Waste Characteristics

Waste oil

Migration Pathways

Soil and surface water

Evidence of Release

None observed

Exposure Potential

Off- and on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for the UST.

**Evaluation Form  
SWMU/Area of Concern  
Number 189**

Name: Oil/Water Separator 676

Location: Bee Canyon Wash at the Station Boundary

Size: 500 gallons

Date of Site Visit: 18 April 1991



Period of Operation

Installed in 1982  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 189**

Unit Characteristics

Water in Bee Canyon Wash at the exit of the Station is treated by two oil/water separators before being discharged off-Station. A floating skimmer pump in the wash is used to pump water to an above ground oil/water separator. According to the as-built plans, oil is removed from the water by a belt skimmer and discharged into underground Waste Oil Tank 674 (SWMU/AOC Number 187) located adjacent to the separator. Treated water is discharged back into the wash through a PVC return pipe about 100 ft upstream of the separator.

A concrete dam located along the Station boundary fence directs water into the wash past a weir and into a second oil/water separator. According to as-built drawings, a belt skimmer removes the oil from the water and disposes of it in Waste Oil Tank 674. The water continues past another weir and is discharged off-Station into the sanitary sewer.

Waste Characteristics

Oily water

Possible Migration Pathways

Soil  
Surface Water

Evidence of Release

No evidence of release was observed

Exposure Potential

On- and off-Station personnel downstream of the Station

Recommendations

A sampling visit is recommended for the oil/water separators at Bee Canyon Wash.



**Evaluation Form  
SWMU/Area of Concern  
Number 190**

Name: Oil/Water Separator

Location: Building 696

Size: 100 gallons

Date of Site Visit: 13 May 1991

This oil/water separator is the same as the separator identified from records review as SWMU/AOC Numbers 154 and 163. For a description of this oil/water separator, see the Evaluation Form for SWMU/AOC Number 163.

**Evaluation Form  
SWMU/Area of Concern  
Number 191**

Name: Underground Storage Tank 706

Location: Building 706

Size: 100 gallons

Date of Site Visit: 30 April 1991

Building 706 does not currently exist at the Station. A drawing was obtained from the Station's vault showing Building 706 and the tank. This drawing did not provide information to accurately locate this small 100-gallon tank. During the site visit, the approximate vicinity of the tank was inspected, and no evidence of the tank was observed. No further action is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 192**

Name: Underground Storage Tank 716-A

Location: South of Building 716

Size: 3,000 gallons

Date of Site Visit: 9 May 1991



Period of Operation

Installed in 1976  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 192**

Unit Characteristics

Underground Storage Tank 716-A is located adjacent to the southern corner of Building 716. The location of the tank is identified by a small pump unit and a 3-ft-diameter steel manhole cover. The tank was installed in 1976. It has fiberglass walls and a capacity of 3,000 gallons. The tank is used to store waste oil from Oil/water Separator 716-B (SWMU/AOC Number 193). No significant stains were observed near the top of the tank. A 3 x 4 x 3-ft deep pit is located adjacent to the manhole cover. The pit appears to be an abandoned storm drain that has been closed shut.

Waste Characteristics

Waste oil

Possible Migration Pathway

Subsurface soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

This tank passed a tank test conducted in 1990 under CTO Number 0006-01 of the Navy CLEAN program. No further action is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 193**

Name: Oil/Water Separator 716-B

Location: South of Building 716

Size: 100 gallons

Date of Site Visit: 9 May 1991



Period of Operation

Installed in 1976  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 193**

Unit Characteristics

Oil/water Separator 716-B is located approximately 10 ft south of the southwestern corner of Building 716. The oil/water separator was installed in 1976. It consists of a 100-gallon, concrete-wall tank. The location of the oil/water separator is identified by a three-piece galvanized steel cover measuring approximately 5 ft x 9 ft in size. The cover sits atop a 4 x 8 x 5-ft deep concrete-lined pit. At the time of the VSI, the pit was about 1/4 filled with water. A 2- to 3-ft-diameter pipe leads from the southwestern wall of the pit to an unknown destination. No significant cracks or stains were observed in the walls of the pit or near the vicinity of the pit.

Waste Characteristics

Oily water

Possible Migration Pathway

Subsurface soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for the UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 194**

Name: Former Incinerator Site

Location: Between Buildings 746 and 602

Size: Unknown

Date of Site Visit: 15 May 1991

Unit Characteristics

The former incinerator site was used to burn trash and municipal-type waste generated by the Station. Its purpose was to reduce the volume of the waste prior to disposal in the adjacent landfill (i.e., the Original Landfill, RI/FS Site 3). There is currently no evidence of the former incinerator site. Although located adjacent to the Original Landfill, it does not fall within the RI/FS investigation boundaries.

Waste Characteristics

Burned municipal wastes

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

A sampling visit is recommended for the former incinerator site.

**Evaluation Form  
SWMU/Area of Concern  
Number 195**

Name: Vehicle Washrack 758

Location: East of Building 758

Size: 1,125 sq ft

Date of Site Visit: 24 April 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 195**

Unit Characteristics

The washrack is located adjacent to the southern side of Building 758 inside the FMD Motor Pool area. The washrack measures 45 x 25 ft. It consists of a concrete wash surface surrounded by a 5-in. concrete berm. The drain leading to Oil/water Separator 758-A (SWMU/AOC Number 196) is located in the southwestern corner of the washrack. The wash surface and the berm have numerous small, minor cracks and stains.

A storm drain is located near the southwestern corner of the washrack. The asphalt surface bordering the washrack is graded so that all runoff flows toward the storm drain. There is evidence of runoff from the FMD facility pooling near the southwestern corner of the washrack. The possibility exists that if water flows over the berm of the washrack, it could flow into the storm drain.

Waste Characteristics

Oily water

Possible Migration Pathways

Oil/water separator  
Storm drain  
Soil

Evidence of Release

Light stains and cracks on wash surface

Exposure Potential

On-Station personnel



**Evaluation Form  
SWMU/Area of Concern  
Number 195**

Recommendations

Since this washrack is stained and the concrete has cracks, it is possible that soil has been impacted by the washrack operations. A sampling visit is recommended for this SWMU/AOC.

It should be noted that the past and present receptors of the wash water (i.e., the drainage channels via storm drain and the oil/water separator) are identified as SWMUs/AOCs also recommended for a sampling visit.

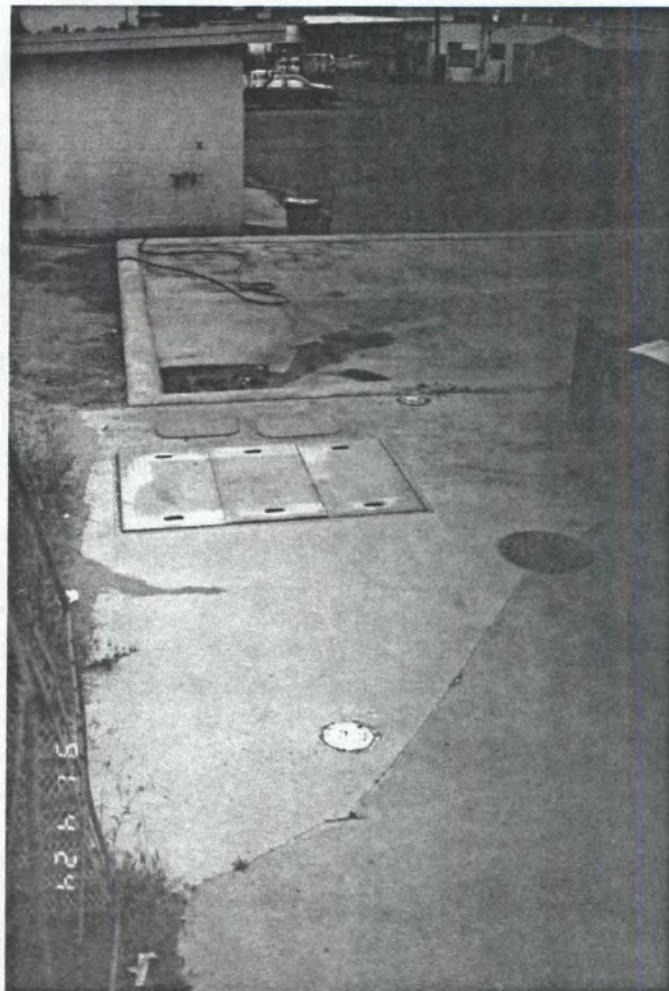
**Evaluation Form  
SWMU/Area of Concern  
Number 196**

Name: Oil/Water Separator 758-A

Location: Adjacent to eastern side of Washrack 758

Size: 100 gallons

Date of Site Visit: 24 April 1991



Period of Operation

Installed in 1982  
Currently active

## **Evaluation For SWMU/Area of Concern Number 196**

### Unit Characteristics

Oil/water Separator 758-A is located adjacent to the southwestern corner of the washrack at Building 758. The oil/water separator was installed in 1982. It consists of a 100-gallon, steel-wall tank. The location of the oil/water separator is identified by a three-piece galvanized steel cover. The entire cover measures about 5 x 10 ft. The cover protects the vents and discharge pipes associated with the oil/water separator. The steel cover is bordered by a 1-ft concrete surface, which is bordered by asphalt. Because the oil/water separator is located underground, the physical condition of the separator could not be observed.

### Waste Characteristics

Oily water

### Possible Migration Pathways

Subsurface soil

### Evidence of Release

None observed

### Exposure Potential

On-Station personnel

### Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



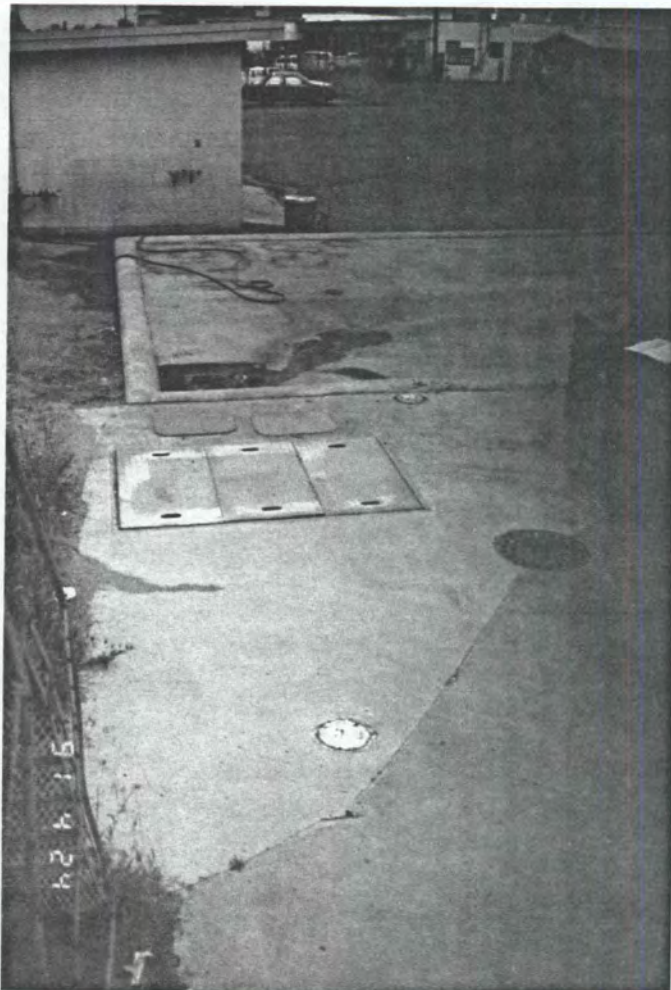
**Evaluation Form  
SWMU/Area of Concern  
Number 197**

Name: Underground Storage Tank 758-B

Location: Adjacent to eastern side of Washrack 758

Size: 185 gallons

Date of Site Visit: 24 April 1991



Period of Operation

Installed in 1982  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 197**

Unit Characteristics

Tank 758-B is a 185-gallon, steel-wall UST. The tank was installed in 1982 along with Oil/water Separator 758-A (SWMU/AOC Number 196). Tank 758-B is used to store waste oil residue received from Oil/water Separator 758-A. Because the tank is located underground, the physical condition of the tank could not be visually observed. See the Evaluation Form for SWMU/AOC Number 196 for a description of the locational characteristics of the tank.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 198**

Name: Vehicle Washrack

Location: Adjacent to Building 655

Size: 900 sq ft

Date of Site Visit: 23 April 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 198**

Unit Characteristics

Vehicle Washrack 759 is located adjacent to Building 655. It is bordered by asphalt on three sides and the northeastern wall of Building 655. A storm drain is located about 12 ft northeast of the washrack. The drain is positioned so that if a spill occurred outside the wash area, it would flow toward the storm drain. The washrack measures 15 x 60 ft. It consists of a concrete wash surface surrounded by a 4-in. concrete berm. There are two drains located in the center of the wash area that lead to Oil/water Separator 759-A (SWMU/AOC Number 199). The wash surface is characterized by several large cracks and dark stains.

At the time of the VSI, there were three drip-pans filled with oil stored inside the wash area. Two of the pans were leaking oil toward the northern most drain inside the wash area. Four hose reels for lubricating oil are attached to the northeast wall of Building 655. Thus, it is possible that vehicle maintenance work is performed inside the washrack.

A UST that appeared to store waste oil is located near the southeastern corner of Building 655. See Evaluation Form SWMU/AOC Number 250 for a description of the UST.

Waste Characteristics

Oily water  
Waste oil

Possible Migration Pathways

Storm drain  
Oil/water separator  
Soil

Evidence of Release

Leaking drip-pans and stained wash surface containing cracks

**Evaluation Form  
SWMU/Area of Concern  
Number 198**

Exposure Potential

On-Station personnel

Recommendations

Because the washrack area was stained, had cracks, and appeared to have been used for some vehicle maintenance in the past, this site is recommended for a sampling visit.

**Evaluation Form  
SWMU/Area of Concern  
Number 199**

Name: Oil/Water Separator 759-A

Location: Southwest of Building 759

Size: 100 gallons

Date of Site Visit: 23 April 1991



Period of Operation

Installed in 1982  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 199**

Unit Characteristics

Oil/water Separator 759-A is located about 15 ft west of Building 759 and 50 ft northwest of washrack 759 (SWMU/AOC Number 198). The oil/water separator was installed in 1982. It consists of a 100-gallon, steel-wall tank. The location of the oil/water separator is identified by a three-piece galvanized steel cover. The entire cover measures about 5 x 10 ft. The cover protects the vents and discharge pipes associated with the oil/water separator. The steel cover is bordered by a 1-ft concrete surface that is bordered by asphalt. Because the oil/water separator is located underground, the physical condition of the separator could not be observed.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.

**Evaluation Form  
SWMU/Area of Concern  
Number 200**

Name: Underground Storage Tank 759-B

Location: Southwest of Building 759

Size: 185 gallons

Date of Site Visit: 23 April 1991



Period of Operation

Installed in 1982  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 200**

Unit Characteristics

Tank 759-B is a 185-gallon, steel-wall UST. The tank was installed in 1982 along with Oil/water Separator 759-A (SWMU/AOC Number 199). Tank 759-B is used to store waste oil received from Oil/water Separator 759-A. Because the tank is located underground, the physical condition of the tank could not be visually observed. See Evaluation Form SWMU/AOC Number 199 for a description of the locational characteristics of the tank.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



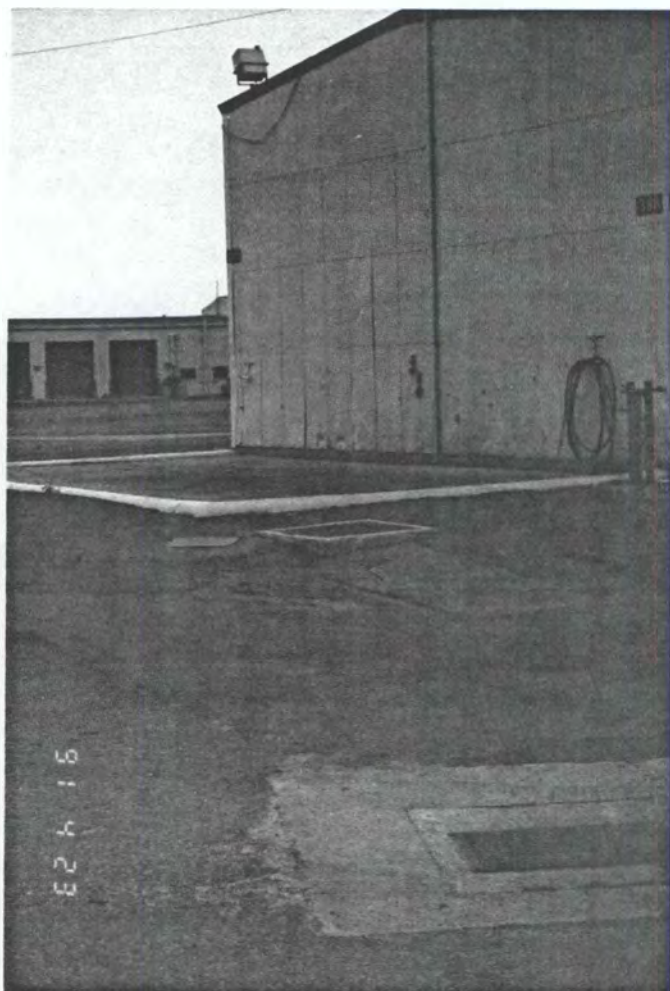
**Evaluation Form  
SWMU/Area of Concern  
Number 201**

Name: Vehicle Washrack 760

Location: Adjacent to south side of Bldg. 388

Size: 540 sq ft

Date of Site Visit: 23 April 91



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 201**

Unit Characteristics

The washrack is located adjacent to the southwest wall of Building 388. The washrack is bordered by asphalt on three sides and the southwest wall of Building 388. It measures approximately 18 ft x 30 ft. The washrack consists of a concrete wash area surrounded by a 4 inch concrete berm. A drain leading to oil/water separator 760-B (SWMU/AOC Number 203) is located in the center of the washrack. The wash surface has several large cracks and is lightly stained.

A drain grate is located about 3 ft from the southwest corner of the washrack. The grate measures approximately 3 ft x 4 ft in size. It does not appear to be a storm drain because the grate is much smaller than the typical grates observed leading to the storm drain. It is possible that it leads to the oil/water separator for the washrack. A liquid surface with an oily sheen is visible at the bottom of the drain.

Waste Characteristics

Oily water

Possible Migration Pathways

Storm drain  
Oil/water separator  
Soil

Evidence of Release

Light stains on wash surface which is cracked

Exposure Potential

On-Station personnel

Recommendations

Because this wash area contains stains and the concrete surface is cracked, it is possible that soil has been impacted by the washrack operation. A sampling visit is recommended for this area.



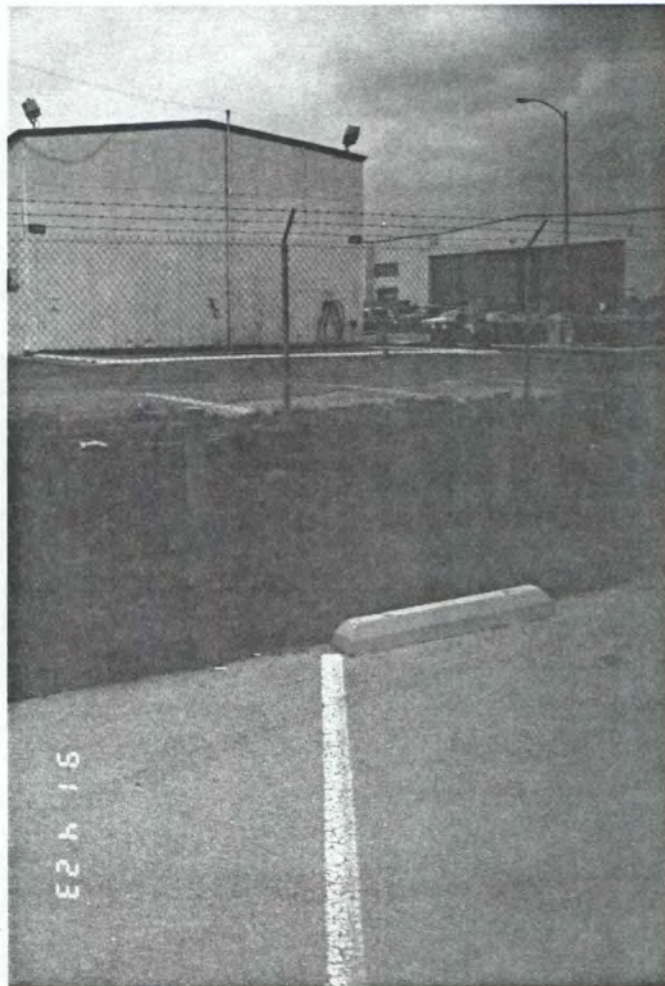
**Evaluation Form  
SWMU/Area of Concern  
Number 202**

Name: Underground Storage Tank 760-A

Location: Southwest of Bldg. 388

Size: 185 gallons

Date of Site Visit: 23 April 91



Period of Operation

Installed in 1982  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 202**

Unit Characteristics

Tank 760-A is a 185 gallon, steel wall , underground storage tank. The tank was installed in 1982 along with oil/water separator 760-B (SWMU/AOC Number 203). Tank 760-A is used to store waste oil residue received from oil/water separator 760-B. Because the tank is located under ground, the physical condition of the tank could not be visually observed. See the Evaluation Form for SWMU/AOC Number 203 for a description of the locational characteristics of the tank.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.

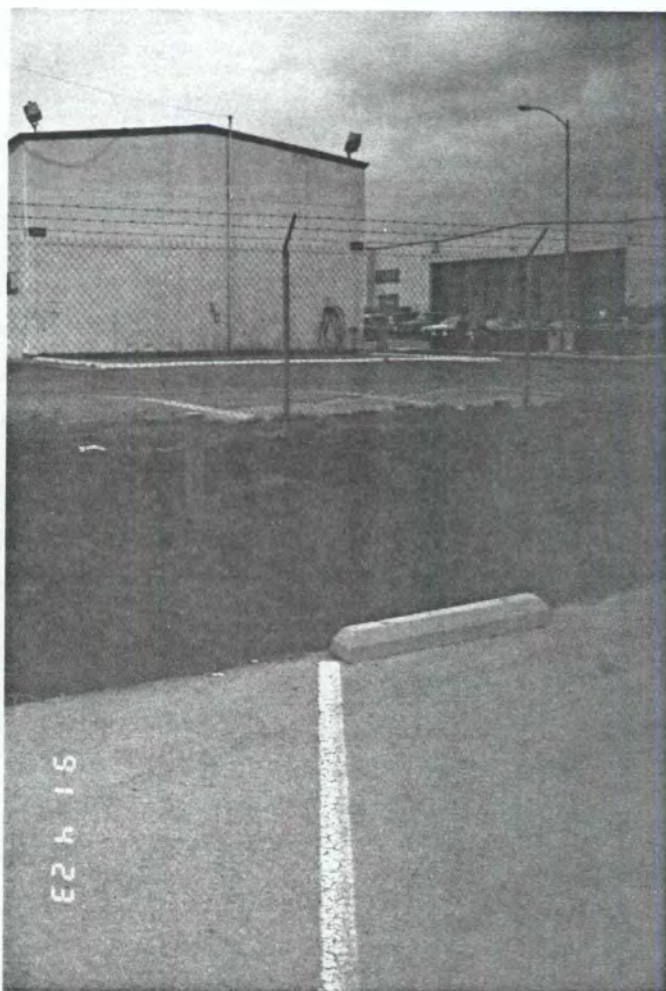
**Evaluation Form  
SWMU/Area of Concern  
Number 203**

Name: Oil/Water Separator 760-B

Location: Southwest of Bldg. 388

Size: 100 gallons

Date of Site Visit: 23 April 91



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 203**

Unit Characteristics

Oil/water separator 760-B is located west of Building 388, outside the facility boundary fence. It is situated in a patch of vegetation growing between the facility parking area and the facility boundary fence. The exact location is identified by 4 yellow posts protruding about 4 ft above the ground. The oil/water separator was installed in 1982. It consists of a 100-gallon, steel wall tank. At the ground surface, the oil/water separator is identified by a three piece galvanized steel cover. The entire cover measures about 5 ft x 10 ft. The cover protects the vents and discharge pipes associated with the oil/water separator. Because the oil/water separator is located underground, the physical condition of the separator could not be observed.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 204**

Name: Aircraft Washrack

Location: North of Bldg. 461

Size: 14,200 sq ft

Date of Site Visit: 06 May 91



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 204**

Unit Characteristics

The Aircraft Washrack is located north of, and adjacent to, Bldg. 761 and is identified by a 119-ft x 119-ft concrete pad surrounded by a berm on the north and west sides. The washrack is graded so that runoff flows to the center of the pad where a drain is located that leads to oil/water separator 761-A (SWMU/AOC Number 205). Numerous large cracks appear throughout the washrack area as well as dark stains. Two leaking drums are stored in the northwest corner and are marked 'Hazardous Material' along with a solvent bottle marked 'Fuel Bottles'. The southwest corner of the washrack is used to store empty fuel pods.

The washrack is surrounded by an unpaved soil area on the north and west sides. A 55-gallon drum of Trichlorotrifluoroethane is stored on a small patch of asphalt located between the washrack and Bldg. 761 and is darkly stained. The east side of the washrack connects with the tarmac to allow aircraft entrance.

Waste Characteristics

Oily water

Potential Migration Pathways

Storm Drain  
Oil/Water Separator  
Soil

Evidence of Release

Stained wash area and asphalt with cracks  
Leaking drums

Exposure Potential

Authorized on-Station Personnel

Recommendations

Based on the evidence of release at this washrack (i.e., stained and cracked concrete, storage of hazardous materials within the washrack in drums that had leaked, and stains outside the washrack), a sampling visit is recommended.



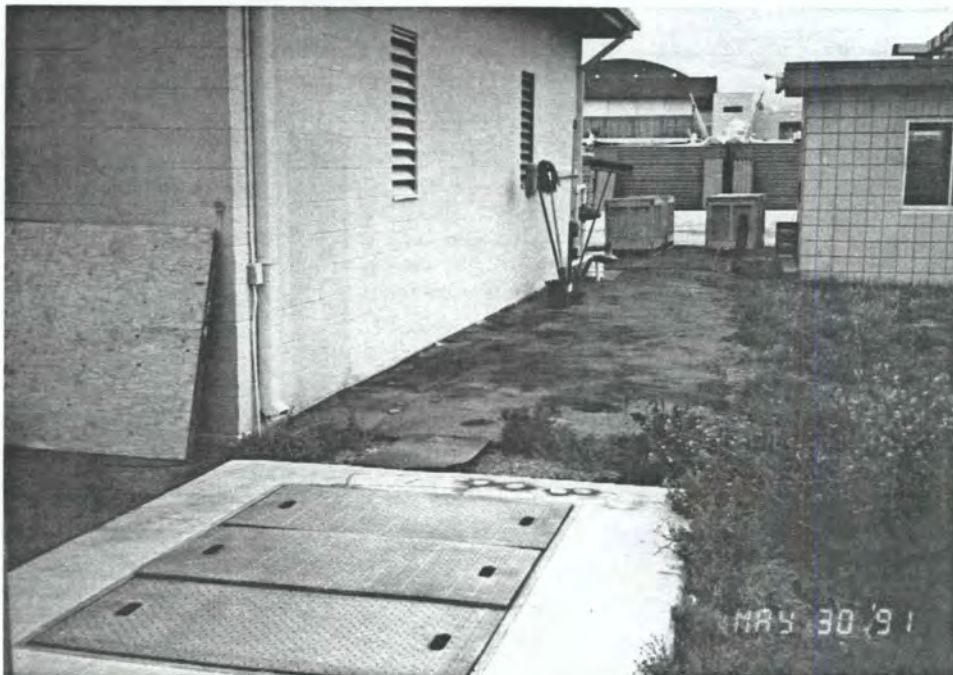
**Evaluation Form  
SWMU/Area of Concern  
Number 205**

Name: Oil/Water Separator 761-A

Location: Southwest corner of Bldg. 761

Size: 100 gallons

Date of Site Visit: 06 May 91



Period of Operation

Installed in 1982  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 205**

Unit Characteristics

Oil/water separator 761-A is located adjacent to the southwest corner of Building 765. The oil/water separator was installed in 1982. It consists of a 100-gallon, steel wall tank. The location of the oil/water separator is identified by a three piece galvanized steel cover. The entire cover measures about 5 ft by 10 ft. The cover protects the vents and discharge pipes associated with the oil/water separator. The steel cover is bordered by 1 ft of concrete surface which is bordered by asphalt. Because the oil/water separator is located underground, the physical condition of the separator could not be observed.

A 5-ft strip of asphalt lies between the south side of Building 761 and an unpaved area. The asphalt strip is badly stained with dark patches. The patches do not appear to have originated from the oil/water separator.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

Stained asphalt on the south side of Building 761, not necessarily related to the oil/water separator

Exposure Potential

Authorized on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was observed from the oil/water separator, it is difficult to assess the potential for release from this underground SWMU/AOC. In addition, nearby asphalt showed indications of stains (not necessarily associated with the oil/water separator). A sampling visit is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 206**

Name: Underground Storage Tank 761-B

Location: Southwest corner of Bldg. 761

Size: 185 gallons

Date of Site Visit: 06 May 91



Period of Operation

Installed in 1982  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 206**

Unit Characteristics

Tank 761-B is located approximately 20 ft south of oil/water separator 761-A (SWMU/AOC Number 205). Its location is characterized by a pump unit situated on a concrete pad in an unpaved area. The tank was installed in 1982. It has steel walls and a 185-gallon capacity. Tank 761-B is used to store oil residue received from oil/water separator 761-A. Because the tank is located underground, the physical condition of the tank could not be visually observed.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 207**

Name: Vehicle Washrack

Location: Building 762

Size: 600 sq ft

Date of Site Visit: 03 May 1991

This washrack is the same as that identified at Building 390. See the Evaluation Form for SWMU/AOC Number 120 for a description of this site.

**Evaluation Form  
SWMU/Area of Concern  
Number 208**

Name: Oil/Water Separator 762-A

Location: West of Building 390

Size: 100 gallons

Date of Site Visit: 3 May 1991



Period of Operation

Installed in 1982  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 208**

Unit Characteristics

Oil/water separator 762-A is located approximately 35 ft west of the washrack at Building 390 (SWMU/AOC Number 120). The oil/water separator was installed in 1982. It consists of a 100-gallon, steel wall tank. The location of the oil/water separator is identified by a three piece galvanized steel cover. The entire cover measures about 5 ft by 10 ft in size. The cover protects the vents and discharge pipes associated with the oil/water separator. The steel cover is bordered by a 1-ft concrete surface which is bordered by asphalt. Because the oil/water separator is located underground, the physical condition of the separator could not be observed.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 209**

Name: Underground Storage Tank 762-B

Location: Near Building 390

Size: 185 gallons

Date of Site Visit: 3 May 1991



Period of Operation

Installed in 1982  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 209**

Unit Characteristics

Tank 762-B is a 185-gallon, steel wall, underground storage tank. The tank was installed in 1982 along with oil/water separator 762-A (SWMU/AOC Number 208). Tank 762-B is used to store waste oil received from oil/water separator 762-A. Because the tank is located underground, the physical condition of the tank could not be visually observed. See the Evaluation Form for SWMU/AOC Number 208 for a description of the locational characteristics of the tank.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.

**Evaluation Form  
SWMU/Area of Concern  
Number 210**

Name: Aircraft Washrack

Location: Adjacent to Building 763

Size: Approximately 20,000 sq ft

Date of Site Visit: 1 May 1991



Period of Operation

Currently inactive



**Evaluation Form  
SWMU/Area of Concern  
Number 210**

Unit Characteristics

This washrack is located on a portion of the tarmac near the south corner of Building 114. Building 763 is used to house the steam cleaning equipment for the washrack; however, it has been removed since the washrack is no longer active. The washrack is bordered by a 6-in. berm along the south and east sides. Since the washrack serves as part of the tarmac, there is no berm on the north or east side. The washrack is sloped so that runoff flows toward two drains located within the wash area. The drains empty into oil/water separator 763-A (SWMU/AOC 211). The washrack has widespread staining, most of which appear to have resulted from motor vehicles parking on the wash area. No significant cracks were observed on the concrete surface.

Waste Characteristics

Oily water

Possible Migration Pathway

Soil

Evidence of Release

Staining on concrete surface

Exposure Potential

Authorized on-Station personnel

Recommendations

The washrack is constructed of concrete that is sloped to collect the wash water in drains connected to an oil/water separator. The concrete, although stained, is the thick concrete of the tarmac. It appeared to be free of cracks or defects that would allow wash water to exit the washrack other than at the drains. No further action is recommended for this SWMU/AOC.

It should be noted that the receptors of the wash water (i.e., the drainage channels via storm drain and the oil/water separator) are identified as SWMU/AOCs recommended for a sampling visit.

**Evaluation Form  
SWMU/Area of Concern  
Number 211**

Name: Oil/Water Separator 763-A

Location: Southeast of Bldg. 698

Size: 100 gallons

Date of Site Visit: 01 May 91



Period of Operation

Installed in 1982  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 211**

Unit Characteristics

Oil/water separator 763-A is located approximately 50 ft southeast of Building 698 adjacent to a vacant HWSA (SWMU/AOC Number 252). The oil/water separator is associated with a wash rack (SWMU/Area of Concern Number 210) located approximately 70 ft to the northwest. The oil/water separator is of steel construction with a 100-gallon capacity; it was installed in 1982. The oil/water separator is characterized by a rectangular concrete pad with a 3-grate metal cover. The concrete pad is bordered on all sides by unpaved, vegetated soil. An above-ground pump unit is located approximately 9 ft north of the concrete pad. The pump unit appears to be associated with waste oil tank 763-B (SWMU/Area of Concern Number 212) adjacent to the oil/water separator. A storm drain is located approximately 9 ft east of the oil/water separator. Since the oil/water separator is located underground, its physical condition could not be observed.

Waste Characteristics

Oily water

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 212**

Name: Underground Storage Tank

Location: Bldg. 763-B

Size: 185 gallons

Date of Site Visit: 01 May 91



Period of Operation

Installed 1982  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 212**

Unit Characteristics

Tank 763-B is a 185-gallon steel UST for waste oil located near Building 763. This tank was installed in 1982. Its location is adjacent to Oil/Water Separator 763-A (SWMU/Area of Concern Number 211). The tank location is characterized by a pump unit atop a rectangular concrete pad located approximately 9 ft north of the oil/water separator. Since this tank is located underground, its physical condition could not be observed.

Waste Characteristics

Waste oil

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.

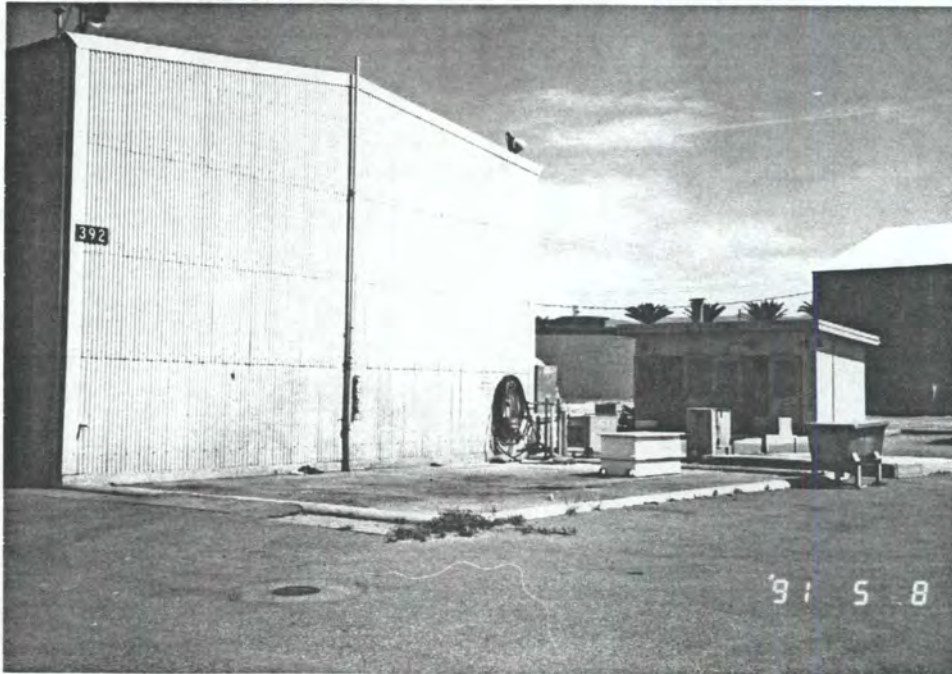
**Evaluation Form  
SWMU/Area of Concern  
Number 213**

Name: Vehicle Wash Rack 764

Location: Adjacent to Bldg. 392

Size: 540 sq ft

Date of Site Visit: 07 May 91



Period of Operation

Currently active



## Evaluation Form SWMU/Area of Concern Number 213

### Unit Characteristics

The washrack is located adjacent to the south side of Building 392. The washrack consists of a 18 ft by 30 ft concrete pad with a concrete berm. A drain leading to an oil/water separator (SWMU/Area of Concern Number 215), situated to the southeast, is located in the center of the washpad. Nearly the entire surface of the washpad appears discolored/stained. There are several significant cracks present in the concrete pad.

The washrack abuts the south wall of Building 392 and is bordered by asphalt pavement on the remaining three sides. Many small stains are present on the asphalt. Two rectangular, steel solvent (i.e., PD-680) wash tanks are located near the southeast corner of the washpad. One tank is located adjacent to the south side of the washpad. The inside bottom of the tank is moist with an unknown liquid. The second tank, labelled "corrosive," is located adjacent to the east side of the washpad. The tank is bordered by a sandbag berm on the northern to eastern sides. Approximately 1 inch of an unknown liquid covered the inside bottom of the container.

### Waste Characteristics

Oily water  
PD-680

### Possible Migration Pathways

Soil

### Evidence of Release

Stained concrete washpad

### Exposure Potential

On-station personnel

### Recommendations

Because of the staining on the washpad surface and the cracks in the concrete, it is possible that a release to soil may have occurred. A sampling visit is recommended for this washrack.

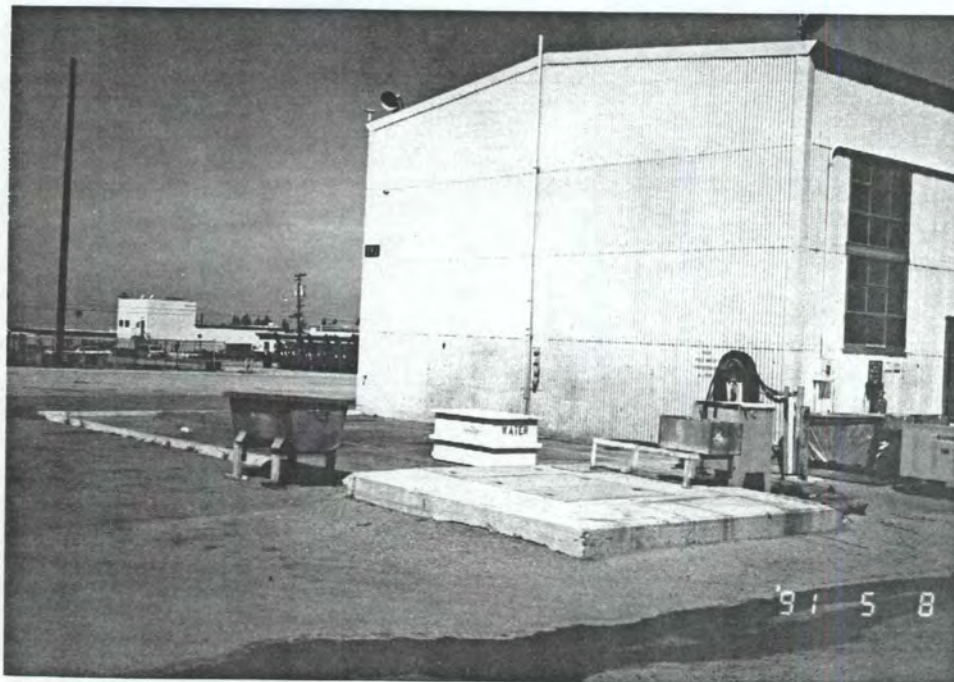
**Evaluation Form  
SWMU/Area of Concern  
Number 214**

Name: Underground Storage Tank 764-A

Location: Southeast of Bldg. 392

Size: 185 gallons

Date of Site Visit: 07 May 91



Period of Operation

Installed in 1982  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 214**

Unit Characteristics

Tank 764-A is a 185-gallon waste oil tank located at the south end of Building 392. The tank is associated with oil/water separator 764-B (SWMU/AOC Number 215) at Building 392. A description of the location of this tank can be found in the Evaluation Form for SWMU/AOC Number 215. Since the tank is located underground, its physical condition could not be observed during the visual site inspection.

Waste Characteristics

Waste oil

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

On-station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 215**

Name: Oil/Water Separator 764-B

Location: Adjacent to Washrack 764

Size: 100 gallons

Date of Site Visit: 07 May 91



Period of Operation

Installed in 1982  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 215**

Unit Characteristics

Oil/water separator 764-B is located on the south side of Building 392, adjacent to the southeast corner of the vehicle washrack (SWMU/Area of Concern Number 213). The oil/water separator receives runoff from a drain located in the center of the vehicle washrack. The oil/water separator is characterized by concrete pad about 1 ft above grade. The pad has three rectangular steel covers in the center. The pad is bordered on all sides by asphalt pavement.

Waste Characteristics

Oily water

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

On-station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.

**Evaluation Form  
SWMU/Area of Concern  
Number 216**

Name: Vehicle Washrack

Location: Adjacent to Bldg. 765

Size: 864 sq ft

Date of Site Visit: 19 April 91



Period of Operation

Currently inactive



**Evaluation Form  
SWMU/Area of Concern  
Number 216**

Unit Characteristics

This washrack is located on the west side of Building 763, and southeast of Building 242. It measures approximately 54 ft by 16 ft in size. The washrack consists of a concrete wash pad surrounded by a 6-in. concrete berm. The washrack appears to have been inactive for a while because there are several small mounds of dirt on the wash surface with vegetation growing. A drain leading to oil/water separator 765-B (SWMU/AOC Number 218) is located near the northwest corner of the wash area. There are no significant stains or cracks on the wash pad area immediately surrounding the washrack.

Two aboveground waste oil storage tanks appeared to be discarded near the northeast side of the washrack. See Evaluation Form SWMU/Area of Concern Number 266 for a description of these tanks.

Waste Characteristics

Oily water

Migration Pathways

Storm drain  
Oil/water separator  
Soil

Evidence of Release

None observed

Exposure Potential

On-station personnel

Recommendations

The washrack is constructed of concrete that is sloped to collect the wash water in a drain connected to an oil/water separator. The concrete appeared to be free of cracks or defects that would allow wash water to exit the washrack other than at the drain. In addition, there is no evidence of stains outside of the washrack area. No further action is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 216**

It should be noted that the receptors of the wash water (i.e., the drainage channels via storm drain and the oil/water separator) are identified as SWMU/AOCs recommended for a sampling visit.

**Evaluation Form  
SWMU/Area of Concern  
Number 217**

Name: Underground Storage Tank 765-A

Location: Bldg. 765

Size: 185 gallons

Date of Site Visit: 19 April 91



Period of Operation

Installed in 1982  
Currently inactive



**Evaluation Form  
SWMU/Area of Concern  
Number 217**

Unit Characteristics

Tank 765-A is a 185-gallon, steel wall, underground storage tank. The tank was installed in 1982 along with oil/water separator 765-B. Tank 765-A is a waste oil holding tank for storing waste oil residue received from oil/water separator 765-B. Because the tank is located under ground, the physical condition of the tank could not be visually observed. See Evaluation Form SWMU/Area of Concern Number 218 (oil/water separator 765-B) for a description of the locational characteristics of the tank.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.

**Evaluation Form  
SWMU/Area of Concern  
Number 218**

Name: Oil/Water Separator 765-B

Location: Adjacent to Vehicle Washrack associated with Bldg. 765

Size: 100 gallons

Date of Site Visit: 19 April 91



Period of Operation

Installed in 1982  
Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 218**

Unit Characteristics

Oil/water separator 765-B is located adjacent to the northwest corner of the washrack at Building 765. The oil/water separator was installed in 1982. It consists of a 100-gallon, steel wall tank. The location of the oil/water separator is identified by a three piece galvanized steel cover. The entire cover measures about 5 ft x 10 ft. The cover protects the vents and discharge pipes associated with the oil/water separator. The steel cover is bordered by 1 ft of concrete surface which is bordered by asphalt. Because the oil/water separator is located underground, the physical condition of the separator could not be observed.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 219**

Name: Vehicle Washrack

Location: South of Bldg. 766

Size: 931 sq ft

Date of Site Visit: 19 April 91



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 219**

Unit Characteristics

The washrack is located about 100 ft west of the Aero Club. It is used to wash vehicles and small rental aircraft. The washrack consists of a rectangular concrete wash area surrounded by a 6-in. concrete berm. There are no significant stains on the wash area or the area outside the washrack. A 2- to 3-ft section of the berm is missing from the southwest corner of the washrack. The wash rack is graded so that the water drains in a northwesterly direction; therefore it is unlikely that any water would drain out from the missing section. A drain located in the northwest corner of the wash area leads to oil/water separator 766-A (SWMU/AOC Number 220).

Waste Characteristics

Oily water

Migration Pathways

Storm drain  
Oil/water separator  
Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The washrack is constructed of concrete that is sloped to collect the wash water in a drain connected to an oil/water separator. The concrete appeared to be free of cracks or defects that would allow wash water to exit the washrack other than at the drain. In addition, there is no evidence of stains outside of the washrack area. No further action is recommended for this SWMU/AOC.

It should be noted that the past and present receptors of the wash water (i.e., the drainage channels via storm drain and the oil/water separator) are identified as SWMU/AOCs recommended for a sampling visit.



**Evaluation Form  
SWMU/Area of Concern  
Number 220**

Name: Oil/Water Separator 766-A

Location: Southeast of Bldg. 766

Size: 100 gallons

Date of Site Visit: 19 April 91



Period of Operation

Installed in 1982  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 220**

Unit Characteristics

Oil/water separator 766-A is located adjacent to the northeast corner of the washrack at Building 766 (SWMU/AOC Number 219). The oil/water separator was installed in 1982. It consists of a 100-gallon, steel wall tank. The location of the oil/water separator is identified by a three piece galvanized steel cover. The entire cover measures about 5 ft x 10 ft. The cover protects the vents and discharge pipes associated with the oil/water separator. The steel cover is bordered by a 1-ft concrete surface which is bordered by asphalt. Because the oil/water separator is located underground, the physical condition of the separator could not be observed.

Waste Characteristics

Oily water

Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.

**Evaluation Form  
SWMU/Area of Concern  
Number 221**

Name: Underground Storage Tank 766-B

Location: Bldg. 766

Size: 185 gallons

Date of Site Visit: 19 April 91



Period of Operation

Installed 1982  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 221**

Unit Characteristics

Tank 766-B is a 185-gallon, steel wall, underground storage tank. The tank was installed in 1982 along with oil/water separator 766-A (SWMU/AOC Number 220). Tank 766-B is used for storing oil received from oil/water separator 766-A. Because the tank is located underground, the physical condition of the tank could not be visually observed. See the Evaluation Form for SWMU/AOC Number 84 for a description of the locational characteristics of the tank.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



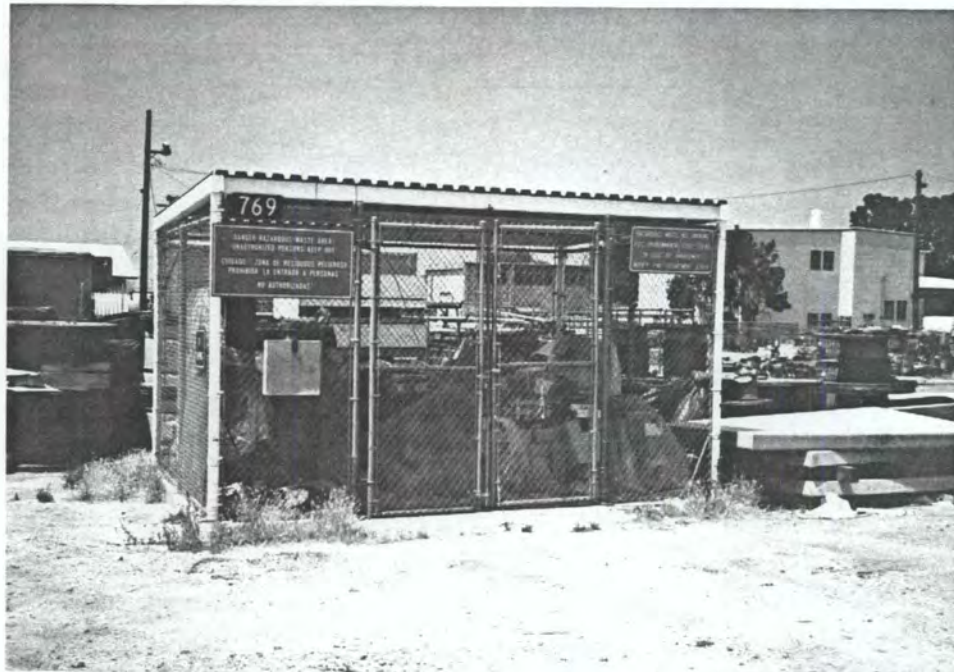
**Evaluation Form  
SWMU/Area of Concern  
Number 222**

Name: Hazardous Waste Storage Area 769

Location: East of Building 306

Size: 144 sq ft

Date of Site Visit: 23 April 91



Period of Operation

Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 222**

Unit Characteristics

This Hazardous Waste Storage Area (HWSA) is one of the six DHS-permitted HWSAs at MCAS El Toro. These six HWSAs (SWMU/AOC Numbers 222 through 227) are not planned for future use. Historically, these six HWSAs have had drums stored outside of the storage area. The HWSA is located in a storage yard east of Building 306. The HWSA is built with a concrete storage pad surrounded by a 6-in. concrete berm. The storage area is protected by a chain-link fence and covered by an aluminum roof. At the time of our visit, the HWSA was not being used to store hazardous waste. Various types of electrical equipment (e.g. fans, conduit, copper wire, light fixtures) were being stored inside the storage area. There was also about 4 inches of ponding water covering the storage surface. Because of the ponding water and electrical equipment, the storage surface or berm could not be inspected for cracks or stains.

Waste Characteristics

Unknown

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

Although there was no evidence of a release during the site visit and hazardous waste was not currently stored in the area, the past and present HWSAs at MCAS El Toro are recommended for a sampling visit.



**Evaluation Form  
SWMU/Area of Concern  
Number 223**

Name: Hazardous Waste Storage Area

Location: Southeast of Bldg. 386

Size: 204 sq ft

Date of Site Visit: 23 April 91



Period of Operation

Currently inactive



**Evaluation Form  
SWMU/Area of Concern  
Number 223**

Unit Characteristics

This Hazardous Waste Storage Area (HWSA) is one of the six DHS-permitted HWSAs at MCAS El Toro. These six HWSAs (SWMU/AOC Numbers 222 through 227) are not planned for future use. Historically, these six HWSAs have had drums stored outside of the storage area. This HWSA is located about 60 ft east of Building 386 near the southeast corner of a vehicle washrack (SWMU/AOC Number 110). It consists of a 12-ft by 12-ft concrete storage surface surrounded by a 6-in. concrete berm. A chain-link fence and aluminum roof protect the HWSA from unauthorized entry.

At the time of the site visit, the HWSA appeared as if it was being cleaned. All of the drums had been removed and placed on wood pallets outside the southwest corner of the HWSA. There was about 2 inches of water in the HWSA. No significant stains or cracks were observed.

Waste Characteristics

Waste oil  
Hydraulic fluid  
Antifreeze

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

Although there was no evidence of a release during the site visit, the past and present HWSAs at MCAS El Toro are recommended for a sampling visit.

**Evaluation Form  
SWMU/Area of Concern  
Number 224**

Name: Hazardous Waste Storage Area 771

Location: Adjacent to the Historical Aircraft display

Size: 180 sq ft

Date of Site Visit: 19 April 91



Period of Operation

Currently inactive



**Evaluation Form  
SWMU/Area of Concern  
Number 224**

Unit Characteristics

This Hazardous Waste Storage Area (HWSA) is one of the six DHS-permitted HWSAs at MCAS El Toro. These six HWSAs (SWMU/AOC Numbers 222 through 227) are not planned for future use. Historically, these six HWSAs have had drums stored outside of the storage area.

The HWSA consists of a concrete storage area surrounded by a 6-in. concrete berm. A chain-link fence and aluminum roof enclose the storage area. At the time of the visit, the inside of the bermed area was covered with about 2 inches of ponding water.

The HWSA was not in use and appeared to have been inactive for a long time. No significant stains or cracks were observed.

Waste Characteristics

Unknown

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

Although there was no evidence of a release during the site visit and hazardous waste was not currently stored in the area, the past and present HWSAs at MCAS El Toro are recommended for a sampling visit.



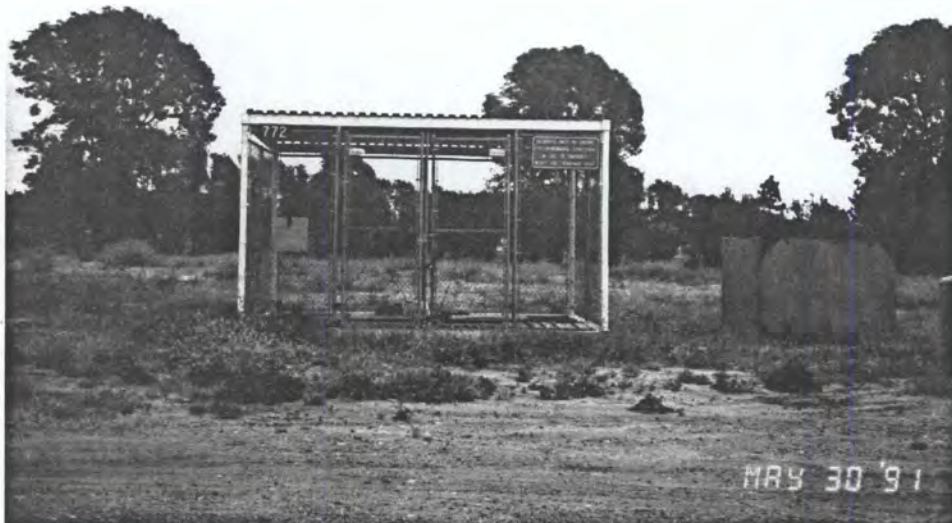
**Evaluation Form  
SWMU/Area of Concern  
Number 225**

Name: Hazardous Waste Storage Area 772

Location: South of DRMO Storage Yard #3

Size: Approximately 144 sq ft

Date of Site Visit: 02 May 1991



Period of Operation

Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 225**

Unit Characteristics

This HWSA is one of the six DHS-permitted HWSAs at MCAS El Toro. These six HWSAs (SWMU/AOC Numbers 222 through 227) are not planned for future use. Historically, these six HWSAs have had drums stored outside of the storage area. HWSA 772 is located approximately 100 ft south of DRMO Storage Yard #3. The HWSA consists of a concrete pad and berm, an aluminum roof, and a chain-link fence on all sides. An access ramp is located on the northern side of the HWSA. At the time of the visit, no drums were stored in the HWSA. The concrete pad is covered with approximately 2 to 3 in. of stagnant, green liquid. Due to the presence of the liquid, the condition of the concrete pad was not discernable. No significant cracks or stains were observed on the concrete berms. The HWSA is bordered on all sides by unpaved, sparsely vegetated soil. An apparently abandoned 500-gallon diesel fuel tank is located approximately 10 ft west of the HWSA. No evidence of release from the tank (i.e., soil stains) was observed.

Waste Characteristics

Unknown

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

Although there was no evidence of a release during the site visit and hazardous waste was not currently stored in the area, the past and present HWSAs at MCAS El Toro are recommended for a sampling visit.



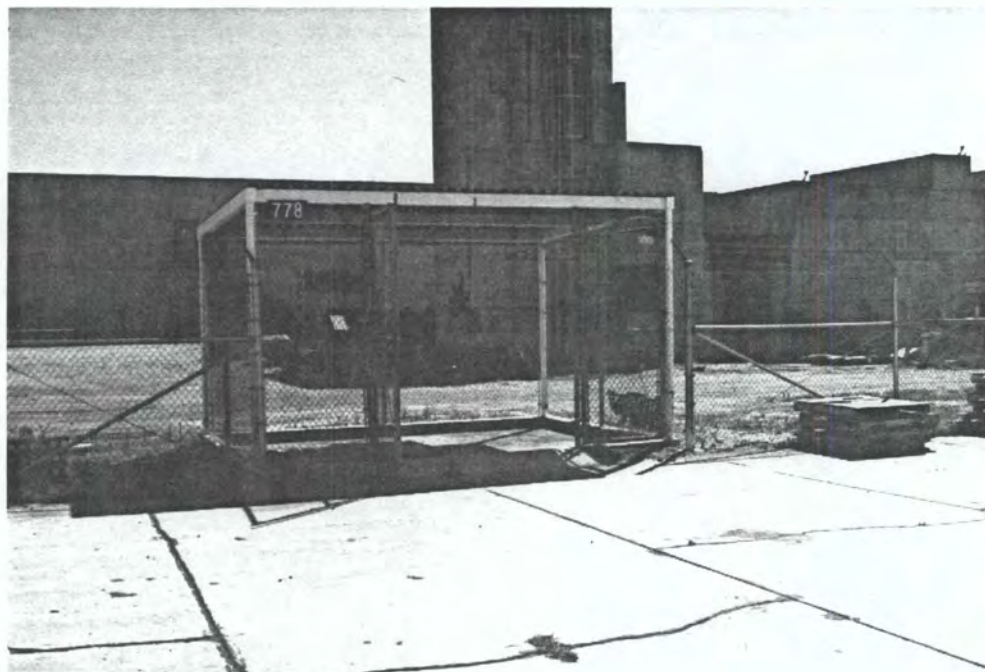
**Evaluation Form  
SWMU/Area of Concern  
Number 226**

Name: Hazardous Waste Storage Area 778

Location: Southwest of Building 296

Size: 180 sq ft

Date of Site Visit: 29 April 1991



Period of Operation

Currently inactive



## Evaluation Form SWMU/Area of Concern Number 226

### Unit Characteristics

This HWSA is one of the six DHS-permitted HWSAs at MCAS El Toro. These six HWSAs (SWMU/AOC Numbers 222 through 227) are not planned for future use. Historically, these six HWSAs have had drums stored outside of the storage area. This HWSA is located about 310 ft southwest of Building 296. The HWSA is identified by a 12-ft x 15-ft concrete pad surrounded by a berm and protected by a chain-link fence and an aluminum roof. There are no significant stains or cracks in the concrete. The HWSA is surrounded by unpaved soil on three sides and the tarmac on the northeast side. There are no significant stains on the ground around the HWSA. This HWSA was used by the squadron in Building 296 while its current HWSA was being constructed. The squadron began using their new HWSA (see SWMU/AOC Number 72) in early 1991. Since then, this HWSA has not been used.

### Waste Characteristics

Although empty at the time of the visit, the waste characteristics are assumed to be the same as SWMU/AOC Number 72:

JP-5  
Waste oil  
Hydraulic Fluid

### Possible Migration Pathways

Soil

### Evidence of Release

None observed

### Exposure Potential

On-Station personnel

### Recommendations

Although there was no evidence of a release during the site visit and hazardous waste was not currently stored in the area, the past and present HWSAs at MCAS El Toro are recommended for a sampling visit.

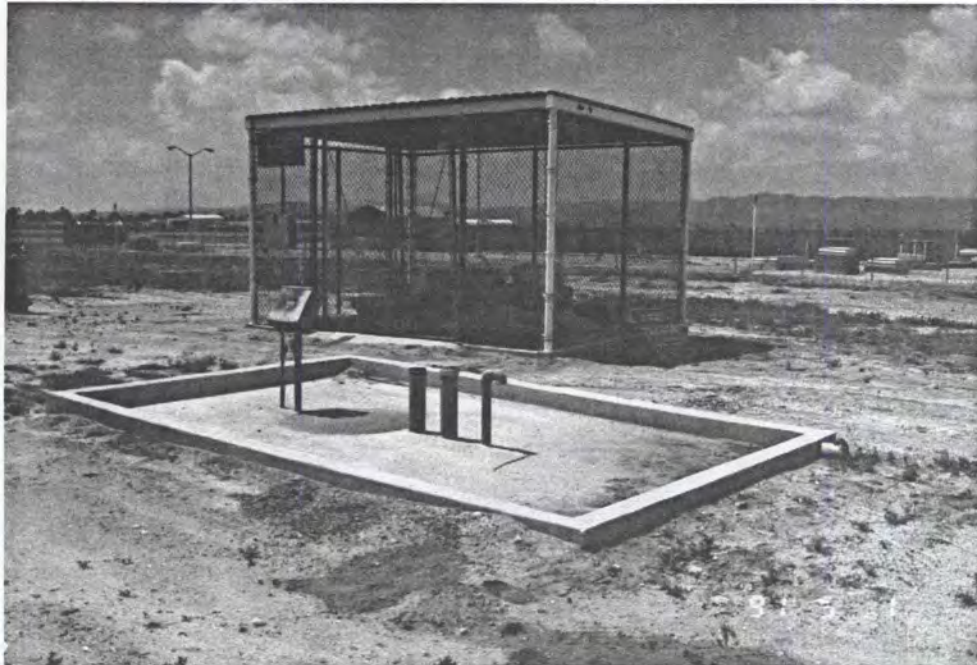
**Evaluation Form  
SWMU/Area of Concern  
Number 227**

Name: Hazardous Waste Storage Area 779

Location: South of Underground Storage Tank T-09

Size: 204 sq ft

Date of Site Visit: 01 May 1991



Period of Operation

Currently inactive



**Evaluation Form  
SWMU/Area of Concern  
Number 227**

Unit Characteristics

This HWSA is one of the six DHS-permitted HWSAs at MCAS El Toro. These six HWSAs (SWMU/AOC Numbers 222 through 227) are not planned for future use. Historically, these six HWSAs have had drums stored outside of the storage area.

This HWSA is approximately 12 x 18 ft in dimension. It consists of a concrete storage surface surrounded by a concrete berm approximately 6 in. high. The HWSA is enclosed by a chain-link fence and covered by an aluminum roof.

The HWSA is intended to be inactive. At the time of the visit, however, several cases of Kodak 55 Developer were placed inside the storage area by a departing squadron without authorization. Some of the photodeveloper had leaked within the HWSA; it was contained completely by the berm.

Waste Characteristics

Photodeveloper  
Unknown in past

Migration Pathways

Soil

Evidence of Release

Photodeveloper had leaked inside the storage area

Exposure Potential

Authorized on-Station personnel

Recommendations

Although there was no evidence of a release outside of the storage area, the past and present HWSAs at MCAS El Toro are recommended for a sampling visit.



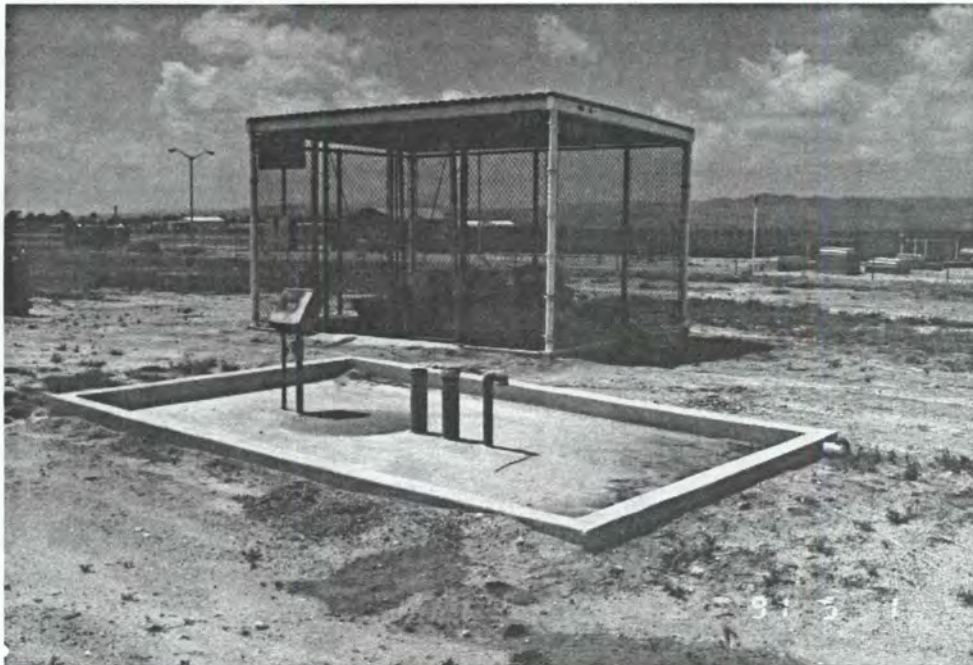
**Evaluation Form  
SWMU/Area of Concern  
Number 228**

Name: Underground Storage Tank T-09

Location: North of Hazardous Waste Storage Area 779

Size: 1,000 gallons

Date of Site Visit: 01 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 228**

Unit Characteristics

Underground Storage Tank T-09 is located approximately 15 ft east of HWSA 779 (SWMU/AOC Number 227). The ground surface above the tank is covered by a concrete pad. A vent pipe, liquid level meter, and junction box protrude from the concrete pad. The concrete pad has concrete berms and appeared free of cracks and stains. The concrete pad is bordered by unpaved soil. There were no stains visually observed on the surrounding areas. Because the tank is located underground, its physical condition could not be observed.

Waste Characteristics

Fuel slop

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

This tank was installed at the Station in 1988. There is no evidence of a release from this tank either from the PR or the VSI. Based on the recent installation date, it is unlikely that a release has occurred. No further action is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 229**

Name: Hazardous Waste Storage Area

Location: East of Building 800

Size: 260 sq ft

Date of Site Visit: 25 April 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 229**

Unit Characteristics

This HWSA is located east of Building 800, adjacent to the southeastern boundary fence of the facility. The HWSA measures 10 x 20 ft in size. It consists of a concrete storage area surrounded by an 8-in. concrete berm. The storage area is protected on three sides by aluminum siding and covered by an aluminum roof. The HWSA is used to store waste oil, antifreeze, expired batteries, hydraulic fluid, and waste grease. The storage area is lightly stained. There are no significant cracks in the concrete storage surface or berm.

Waste Characteristics

Waste oil  
Antifreeze  
Expired batteries  
Grease

Possible Migration Pathways

Soil

Evidence of Release

Light staining on storage surface

Exposure Potential

Authorized on-Station personnel

Recommendations

Although there was no evidence of a release outside of the storage area, the past and present HWSAs at MCAS El Toro are recommended for a sampling visit.

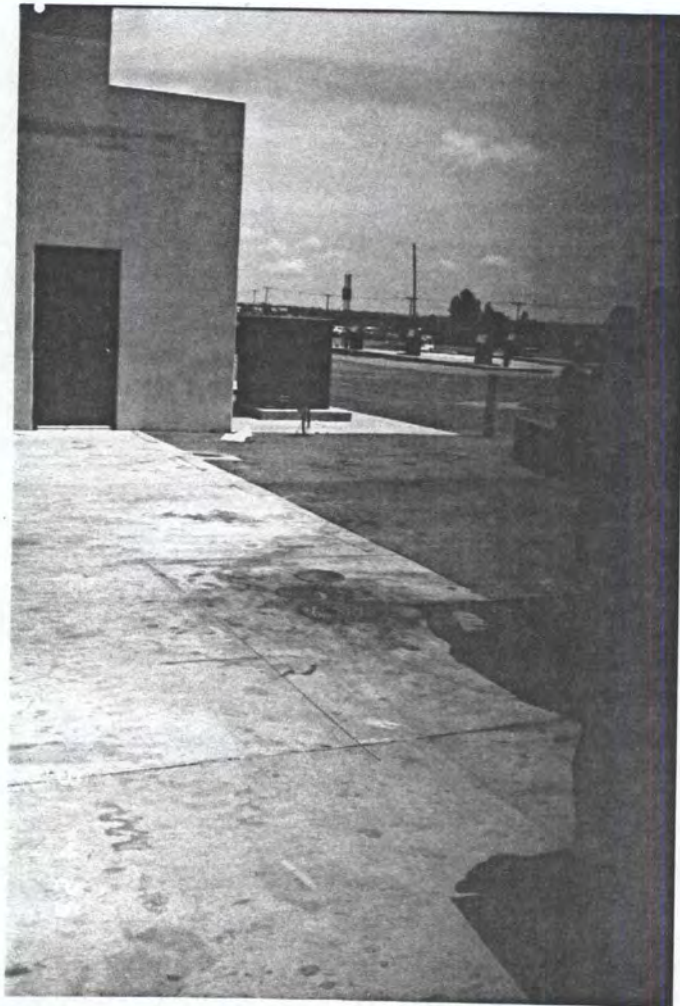
**Evaluation Form  
SWMU/Area of Concern  
Number 230**

Name: Underground Storage Tank 800-D

Location: South of Building 800

Size: 1,000 gallons

Date of Site Visit: 25 April 1991



Period of Operation

Installed in 1984  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 230**

Unit Characteristics

Underground Storage Tank 800-D is a 1,000-gallon, fiberglass-lined waste oil storage tank. The tank was installed in 1984 on the western side of Building 800. The location of the tank is identified by a cluster of 3 metal fill box covers. The fill boxes are located in front of the fourth work bay from the northwestern corner of the building. The area around the fill boxes is stained with residual oil from filling and emptying the tank. Because the tank is located underground, the physical condition of the tank could not be visually observed. Tank 800-D passed a tank test conducted in 1990 under CTO Number 0006-01 of the Navy CLEAN program.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

Stained concrete near fill boxes

Exposure Potential

Authorized on-Station personnel

Recommendations

Tank 800-D passed a tank test conducted in 1990. There are stains on the concrete adjacent to the fill box, but it does not appear that soil has been impacted. No further action is recommended for this SWMU/AOC.



**Evaluation Form  
SWMU/Area of Concern  
Number 231**

Name: Underground Storage Tank 800-E

Location: North of Building 800

Size: 1,000 gallons

Date of Site Visit: 25 April 1991



Period of Operation

Installed in 1984  
Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 231**

Unit Characteristics

Tank 800-E is a 1,000-gallon, fiberglass-lined underground waste oil storage tank. The tank was installed in 1984 on the eastern side of Building 800. The location of the tank is identified by a cluster of 4 metal fill box covers. The fill boxes are located in front of the fourth work bay from the northeastern corner of the building. The area around the fill boxes is stained with residual oil from filling and emptying the tank. Because the tank is located underground, the physical condition of the tank could not be visually observed. Tank 800-E failed a tank test conducted in 1990 under CTO Number 0006-01.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

Stained concrete near fill boxes  
Failed tank test in 1990

Exposure Potential

Authorized on-Station personnel

Recommendations

Tank 800-E failed a tank test conducted in 1990. There are stains on the concrete near the fill box although it appears that soil is not impacted. A sampling visit is recommended for this tank.



**Evaluation Form  
SWMU/Area of Concern  
Number 232**

Name: Oil/Water Separator 800-F

Location: Southwest of Building 800

Size: 1,500 gallons

Date of Site Visit: 25 April 1991



Period of Operation

Installed in 1984  
Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 232**

Unit Characteristics

Tank 800-F is a 1,500-gallon, concrete-lined oil/water separator. The tank was installed in 1984 near the northern side of the washrack at Building 800 (SWMU/AOC Number 299). The oil/water separator has two 3-ft diameter manhole covers that lead to the two sections of the oil/water separator. There were no significant stains on the asphalt surface around the covers of the oil/water separator. Since the oil/water separator is located underground, its physical condition could not be visually observed.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.

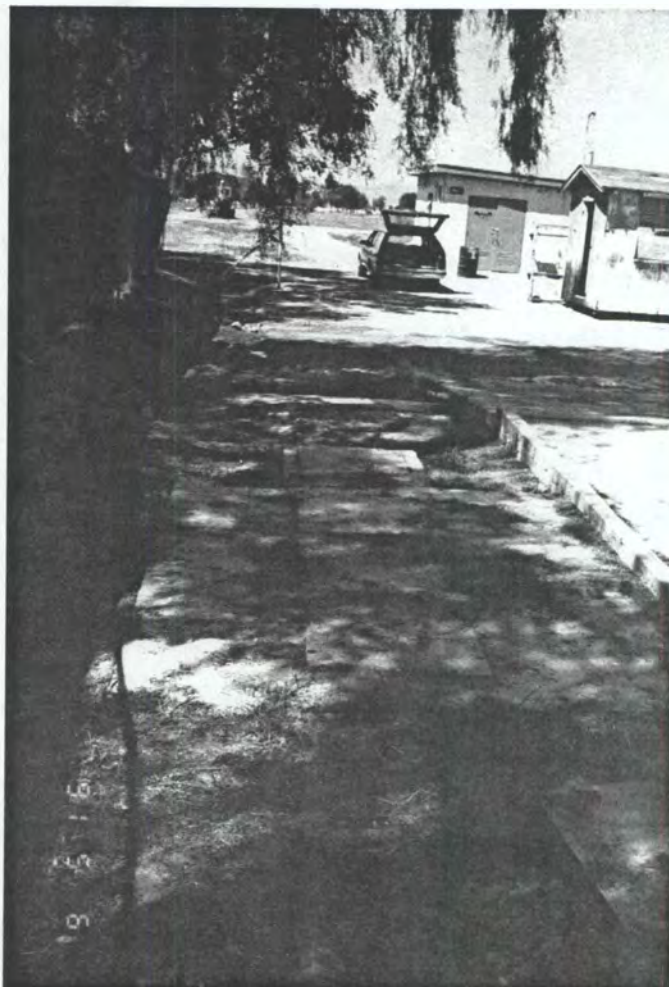
**Evaluation Form  
SWMU/Area of Concern  
Number 233**

Name: Oil/Water Separator

Location: Near Building 817

Size: Unknown

Date of Site Visit: 06 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 233**

Unit Characteristics

The oil/water separator is located adjacent to the southeastern side of the washrack associated with Building 817 (SWMU/AOC Number 312). Its capacity and installation date are not known. The oil/water separator is identified by a 10-ft x 7-ft concrete pad with three square covers. Because the separator is located underground, its physical condition could not be observed.

Waste Characteristics

Oily water

Potential Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



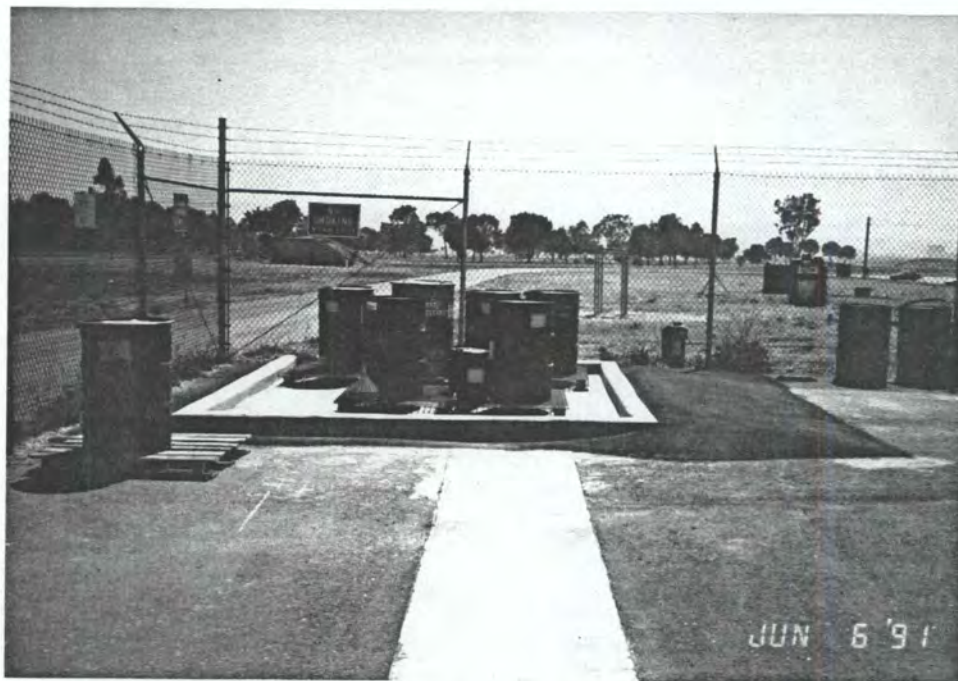
**Evaluation Form  
SWMU/Area of Concern  
Number 234**

Name: Hazardous Waste Storage Area

Location: Southwest of Building 856

Size: 169 sq ft

Date of Site Visit: 06 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 234**

Unit Characteristics

The HWSA is located southwest of Building 856 and is identified by a 13-ft x 13-ft concrete pad. There are no stains or significant cracks inside the storage area. The HWSA is surrounded by asphalt, which has no stains. There is a shallow drainage ditch that runs 60 ft into a drain inside the yard.

Waste Characteristics

Electrical insulating oil  
112-Trichloro-trifluoroethane  
Coolant

Potential Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

Although there was no evidence of a release outside of the storage area, the past and present HWSAs at MCAS El Toro are recommended for a sampling visit.

**Evaluation Form  
SWMU/Area of Concern  
Number 235**

Name: Drum Storage Area

Location: West of Building 1519

This DSA was identified in a 1980 DHS photograph. Building 1519 does not currently exist at the Station. A review of a past SPCC map (undated) shows the location of Building 1519. A DSA is not located west of the previous location of Building 1519. A HWSA is currently located about 100 ft north of the Building 1519 location and southwest of current Building 10. It is possible that this HWSA is the DSA in the DHS photograph. For a description of the HWSA, see the evaluation form for SWMU/AOC Number 27.



**Evaluation Form  
SWMU/Area of Concern  
Number 236**

Name: Drum Storage Area

Location: Building 1663 (north of Building 458)

This DSA is located within the investigation boundaries of RI/FS Site 6 (Drop Tank Drainage Area No. 1). It will be excluded from further consideration in the RFA.

**Evaluation Form  
SWMU/Area of Concern  
Number 237**

Name: Drum Storage Area

Location: Building 1700

Size: Unknown

Date of Site Visit: 5 May 1991

Building 1700 is currently not in existence at MCAS El Toro. Its location was identified from an SPCC map. No evidence of a former DSA was observed during the site inspection.

**Evaluation Form  
SWMU/Area of Concern  
Number 238**

Name: Drum Storage Area

Location: Building 1727

Size: Unknown

Date of Site Visit: 15 May 1991

Building 1727 is not currently in existence at MCAS El Toro. Its location was identified from an SPCC map. No evidence of a former DSA was observed during the site inspection.



**Evaluation Form  
SWMU/Area of Concern  
Number 239**

Name: Drum Storage Area

Location: Building 1798

Size: Unknown

Date of Site Visit: 08 May 1991

In a letter from the RWQCB to Lt. Rehor dated 23 June 1989, a DSA was identified near Building 1798. Building 1798 is presently a horse stable house with 20 stables. The ground around Building 1798 is unpaved soil. The area in proximity to the building was inspected, and no evidence of a former DSA was observed.

**Evaluation Form  
SWMU/Area of Concern  
Number 240**

Name: Drum Storage Area

Location: Southeast of Building 155

Size: Approximately 100 sq ft

Date of Site Visit: 22 April 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 240**

Unit Characteristics

The DSA is located about 80 ft southeast of Building 155. The drums are stored in an unpaved secondary storage area situated in the southeastern corner of the FMD storage yard. About 40 drums are stored on wood pallets in the unpaved area. Most of the drums are empty; however, there is one full drum labeled "Asphalt Emulsion," which was stained on the outside. There are no significant stains on the unpaved ground near the DSA.

Waste Characteristics

Asphalt emulsion

Possible Migration Pathways

Surface soil

Evidence of Release

A stained 55-gallon drum, no release to unpaved soil

Exposure Potential

Authorized on-Station personnel

Recommendations

Although one of the drums was stained, there was no evidence of a release to the unpaved soil. No further action is recommended for this site.



**Evaluation Form  
SWMU/Area of Concern  
Number 241**

Name: Drum Storage Area

Location: South of Building 155

Size: Approximately 225 sq ft

Date of Site Visit: 22 April 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 241**

Unit Characteristics

The DSA is located about 200 ft south of Building 155. It consists of a mobil runway, aluminum flooring and an aluminum, carport-type structure. Approximately 30 drums are stored here on unpaved soil. Most of the drums contain product asphalt paving materials. The aluminum matting has numerous stains. One badly stained drum adjacent to the northeastern post of the carport structure is filled with a dark liquid. The drum is open to the atmosphere.

Waste Characteristics

Asphalt paving material

Possible Migration Pathways

Surface soil

Evidence of Release

Stained drum and aluminum flooring, possible release to soil below aluminum flooring

Exposure Potential

Authorized on-Station personnel

Recommendations

A sampling visit is recommended for this area



**Evaluation Form  
SWMU/Area of Concern  
Number 242**

Name: Former Hazardous Waste Storage Area

Location: Building 371

Size: Unknown

Date of Site Visit: 30 April 1991



Period of Operation

Currently inactive



**Evaluation Form  
SWMU/Area of Concern  
Number 242**

Unit Characteristics

The former HWSA for Building 371 is an unpaved area located approximately 3 ft west of the tarmac adjacent to the aircraft post-flight check area. The location of the former HWSA is identified by the presence of disturbed soil at the former site. Specifically, a lightly stained, gravelly soil area identifies the location.

At the time of the VSI, two 55-gallon drums were stored between the former HWSA and the Agua Chinon channel. The drums were stored on wood pallets over unprotected soil. An unidentified purplish-colored liquid was present on the top of one of the drums. The contents of the drums are unknown.

See Evaluation Form SWMU/AOC Number 107 for a description of the new HWSA for Building 371.

Waste Characteristics

The wastes at the former HWSA are assumed to be the same as the current HWSA:

- Waste oil
- Waste JP-5
- Waste hydraulic fluid
- Waste Speedy-dry

Possible Migration Pathways

Surface soil

Evidence of Release

Lightly stained soil

Exposure Potential

Authorized on-Station personnel

Recommendations

This former HWSA was located on unpaved soil, which has current indications of minor staining. A sampling visit is recommended for this area.

**Evaluation Form  
SWMU/Area of Concern  
Number 243**

Name: Washrack

Location: Southwest of Building 96

Size: Approximately 1,596 sq ft

Date of Site Visit: 29 April 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 243**

Unit Characteristics

A concrete washrack was discovered at this site during the VSI for the HWSA at Building 96. The washrack is located approximately 90 ft southwest of Building 96. It measures approximately 38 x 42 ft and has many significant cracks. No major stains were observed on the concrete. Two 18-in. diameter pipes (open to the atmosphere) protrude from the concrete's surface. The pipes are approximately 18 ft apart. A liquid surface was visually observed approximately 10 ft down the pipes. It is not known where these pipes drain to.

A drain for the washrack is located at the southwestern side of the washrack. The drain leads to an oil/water separator (SWMU/AOC Number 291). The metal surface covers of the separator are located approximately 1 ft from the drain. A liquid surface was observed in the separator approximately 2 ft below the surface.

Waste Characteristics

Oily water

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

Although the washrack was not stained, it contained a number of cracks that may indicate the potential for oily water to leak to the underlying soil. A sampling visit is recommended for this washrack.



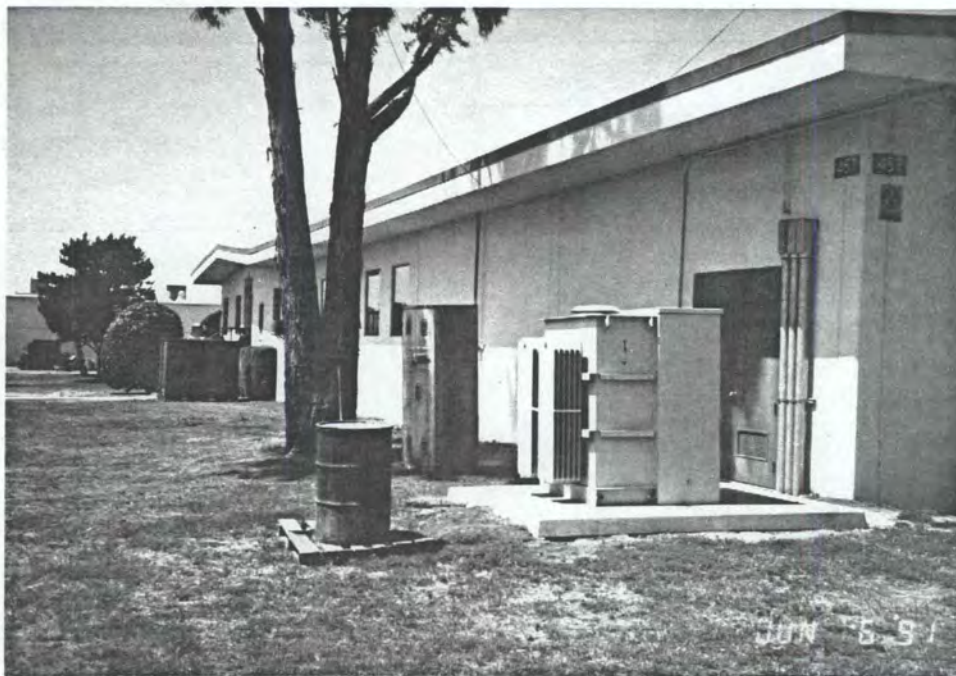
**Evaluation Form  
SWMU/Area of Concern  
Number 244**

Name: PCB Spill from a Transformer

Location: South of Building 457

Size: Unknown

Date of Site Visit: 06 June 1991



Period of Operation

A leak is mentioned in a 1984 report

**Evaluation Form  
SWMU/Area of Concern  
Number 244**

Unit Characteristics

Records indicate that a PCB release occurred from the transformer located on the southern side of Building 457. The records did not provide details on the extent of the release. An electrical power unit is currently located at the southeastern corner of Building 457. The electrical unit is situated atop an 10 x 10 ft concrete pad located approximately 3 ft from the southern wall of Building 457. The concrete pad is bordered on all sides by unpaved, vegetated soil. No evidence of a release was observed on the surrounding ground surface. An asphalt-paved parking lot is located approximately 25 ft east of the electrical unit. At the time of the VSI, a 55-gallon drum was present approximately 2 ft south of the electrical unit. The drum was covered but not sealed and was filled with a murky, brownish-green-colored liquid. The drum was stored on a wood pallet atop unpaved ground and was not labelled. The outside of the drum was darkly stained. No evidence of release from the drum was observed on the surrounding soil.

Waste Characteristics

PCBs

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

Because the area surrounding the pad is unpaved soil, a sampling visit is recommended for this PCB spill even though there is currently no remaining evidence of the release.



**Evaluation Form  
SWMU/Area of Concern  
Number 245**

Name: Golf Course

Location: Southeast part of MCAS El Toro

Size: 18-hole golf course

Period of Operation

Active since the early 1950s

Unit Characteristics

The golf course received effluent from the former sewage treatment plant (SWMU/AOC Number 90) from its opening until 1972. The sewage treatment plant treated primarily sanitary sewer wastewater. It is known that photodeveloper has been dumped into the sanitary sewer in the past at the Station.

Waste Characteristics

Treated sanitary sewer water  
Photodeveloper  
Chemicals potentially dumped down sinks

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel



**Evaluation Form  
SWMU/Area of Concern  
Number 245**

Recommendations

In the past, the golf course received effluent from the former sewage treatment plant (SWMU/AOC Number 90) as irrigation water. Because the golf course was established in the early 1950s, it was not in existence at the time of the metal plating operations at the Station (i.e., the mid 1940s) and, therefore, did not receive treatment plant effluent containing these metal plating wastes. The irrigation water for the golf course was primarily treated sanitary sewer water. It is possible that in the past some waste chemicals were dumped into the sanitary sewer via sinks; only photodeveloper has been identified as being disposed of in this manner. The sewage treatment plant was designed for 1,500,000 gallons per day, which would provide significant dilution of any material dumped into the sanitary sewer system.

Based on the nature of the irrigation water (i.e., treated sanitary wastewater with dilute concentration of photodeveloper), its use (i.e., irrigation in which the water was primarily absorbed by plant life), and the nature of the golf course (i.e., a very large site with no specific areas to target for investigation), no further action is recommended for the golf course. It is suggested that the golf course be monitored by the groundwater wells to be installed in the RI/FS program. If there are indications that the golf course is impacting groundwater quality, further action may then be required.

**Evaluation Form  
SWMU/Area of Concern  
Number 246**

Name: Above Ground Golf Course Irrigation Tank

Location: Northeastern part of the Golf Course

Period of Operation

Active since the early 1950s

Unit Characteristics

The irrigation tank received effluent from the former sewage treatment plant (SWMU/AOC Number 90) from the 1950s until 1972.

Waste Characteristics

Treated sanitary sewer water  
Photodeveloper  
Chemicals potentially dumped down sinks

Possible Migration Pathways

Soil

Evidence of Release

The water from this tank is used to irrigate the golf course

Exposure Potential

On-Station personnel

Recommendations

No further action is recommended for the irrigation tank at the golf course. See the Evaluation Form for the golf course (SWMU/AOC Number 245).

**Evaluation Form  
SWMU/Area of Concern  
Number 247**

Name: Pipeline to Golf Course Irrigation Tank from Former Sewage Treatment Plant

Location: Southern part of the Station

Size: Approximately 8,000 ft in length

Period of Operation

Currently inactive

Unit Characteristics

The pipeline delivered effluent from the former sewage treatment plant (SWMU/AOC Number 90) to the irrigation tank (SWMU/AOC Number 246) from the 1950s until 1972.

Waste Characteristics

Treated sanitary sewer water  
Photodeveloper  
Chemicals potentially dumped down sinks

Possible Migration Pathways

Soil

Evidence of Release

None able to be observed

Exposure Potential

On-Station personnel



**Evaluation Form  
SWMU/Area of Concern  
Number 247**

Recommendations

Because this pipeline extends across a large part of the Station, a sampling visit is not a practical option. In addition, the water in the pipeline was primarily treated sanitary sewer water with only dilute concentration of other chemicals (e.g., photodeveloper). No further action is recommended for this pipeline.

It is suggested, however, that this line be monitored by the groundwater wells to be installed in the RI/FS program at the Station. If there are indications that this line may be impacting groundwater quality, further action may then be required.

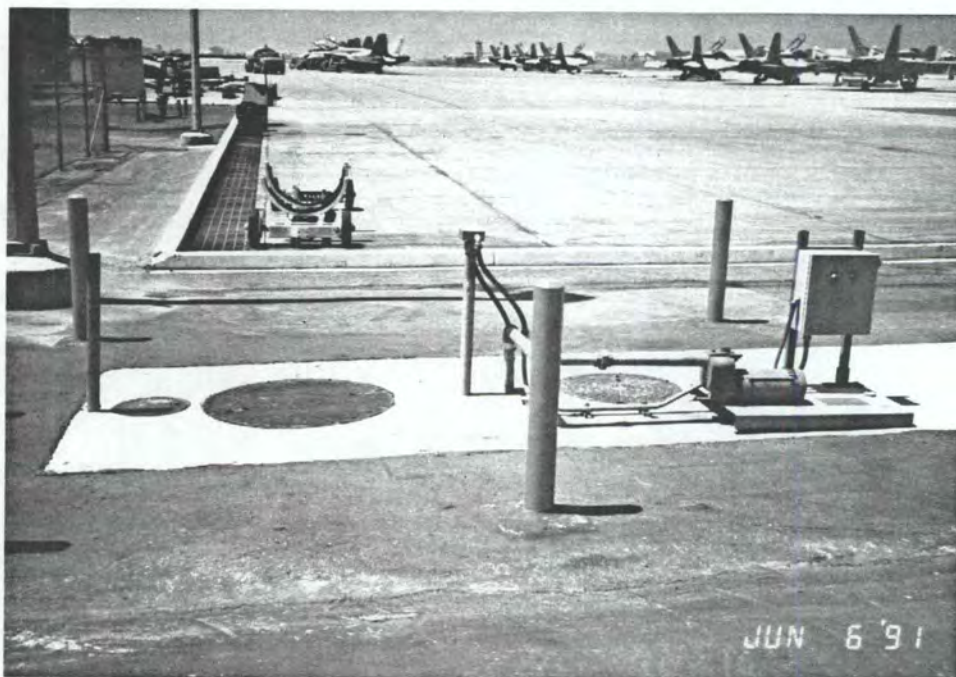
**Evaluation Form  
SWMU/Area of Concern  
Number 248**

Name: Oil/Water Separator

Location: Building 463

Size: Unknown

Date of Site Visit: 30 April 1991



Period of Operation

Currently active

## **Evaluation Form SWMU/Area of Concern Number 248**

### Unit Characteristics

An oil/water separator was observed during the site visit near the washrack at Building 846 (SWMU/AOC Number 141). The oil/water separator is located approximately 12 ft south of the southern corner of the washpad. The oil/water separator receives runoff from the washpad via a drain located along the length of the western side of the washpad. Oil residue removed by the oil water separator is discharged to an underground waste oil holding tank (SWMU/AOC Number 249) located adjacent to the oil/water separator. According to base personnel, problems with the oil/water separator backing-up to the washrack drain have occurred in the past.

See the Evaluation Forms for SWMU/AOC Numbers 141 and Number 249 for descriptions of the washrack and underground waste holding tank, respectively.

### Waste Characteristics

Oily water

### Possible Migration Pathways

Subsurface soil

### Evidence of Release

None observed

### Exposure Potential

On-Station personnel

### Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 249**

Name: Underground Waste Oil Holding Tank

Location: Building 463

Size: Unknown

Date of Site Visit: 30 April 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 249**

Unit Characteristics

An underground waste oil holding tank was observed during the site inspection of the area around the washrack near Building 846 (SWMU/AOC Number 141). The holding tank is located approximately 12 ft south of the southern corner of the washpad. The holding tank receives oil residue from the oil/water separator (SWMU/Area of Concern Number 248) located adjacent to the holding tank.

See the Evaluation Forms for SWMU/AOC Numbers 141 and 248 for descriptions of the washrack and oil/water separator, respectively.

Waste Characteristics

Waste oil

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release was indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. For this reason, a sampling visit is suggested for this UST.



**Evaluation Form  
SWMU/Area of Concern  
Number 250**

Name: Underground Storage Tank 655

Location: Building 655

Size: Unknown

Date of Site Visit: 23 April 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 250**

Unit Characteristics

A UST for waste oil storage is located at the eastern corner of Building 655. The location of the UST was discovered during the VSI for the washrack at Building 758 (SWMU/AOC Number 195), located adjacent to Building 655. The fill box, located approximately 8 ft east of Building 655, appears as a round, plastic cap at the surface. The cap is surrounded by asphalt pavement and is situated approximately 6 in. east of a concrete pad. The pavement around the fill box is darkly stained. A crack is present in the adjacent concrete surface, leading from the fill box west toward Building 655.

Waste Characteristics

Waste oil

Possible Migration Pathways

Soil

Evidence of Release

Stained pavement around fill box

Exposure Potential

On-Station personnel

Recommendations

This UST has not been tank tested. Although no evidence of a release from the tank is indicated from the records review or the VSI, it is difficult to assess the potential for release from this underground SWMU/AOC. Some stains were observed at the fill box and there are some cracks in the pavement there. A sampling visit is recommended for this UST.

**Evaluation Form  
SWMU/Area of Concern  
Number 251**

Name: Drum Storage Area

Location: Building 388

Size: 940 sq ft

Date of Site Visit: 23 April 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 251**

Unit Characteristics

The drum storage area (DSA) is located on the southeast side of Building 388 adjacent to the southeast boundary fence. The drum storage area is 940 sq ft in size and is used to store product materials used at Building 388. It contains a concrete storage surface surrounded by an 8 inch concrete berm. There are no significant cracks or stains inside the storage area or on the berm surrounding the storage area. Military personnel working at Building 388 said this storage area was built within the last year. Apparently the concrete part of the concrete berm which surrounds the storage area was part of the foundation of a former building at the location.

The storage area is bordered by asphalt on all four sides. A storm drain is located about 25 ft west of the storage area and down gradient. There appears to be an abandoned drain located adjacent to the northeast berm of the storage area.

Waste Characteristics

The following product materials were stored in the DSA:

- Lubrication oil
- Antifreeze
- Hydraulic fluid

Possible Migration Pathways

- Storm drain
- Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel



**Evaluation Form  
SWMU/Area of Concern  
Number 251**

Recommendations

This DSA has been in operation for only about a year. The DSA does not have stains and the concrete is in good condition. No further action is recommended for this area.

**Evaluation Form  
SWMU/Area of Concern  
Number 252**

Name: Hazardous Waste Storage Area

Location: South of Bldg. 698

Size: 144 sq ft

Date of Site Visit: 01 May 1991



Period of Operation

Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 252**

Unit Characteristics

This hazardous waste storage area (HWSA) is located south of Building 698 and east of Building 763, approximately 40 feet from the Building 763 washrack (SWMU/AOC Number 210). The HWSA consists of a bermed concrete pad covered by an aluminum roof. A sump is located in the eastern corner of the concrete pad. The area surrounding the HWSA is asphalt paved. The HWSA appeared to be inactive at the time of the visual site inspection. The HWSA was empty with the exception of a few metal pallets. Approximately 2 inches of ponded water was present in the bottom of the HWSA. Due to the presence of the ponded water in the HWSA, the condition of the concrete wash surface was difficult to observe. Paint stains were observed on the berm on the northeast corner of the HWSA. Some staining was observed on the surrounding asphalt near the northwest corner and east side of the HWSA.

Waste Characteristics

Unknown

Possible Migration Pathways

Soil

Evidence of Release

Small stains on HWSA berm and on asphalt adjacent to HWSA

Exposure Potential

Authorized on-Station personnel

Recommendations

There is evidence of minor spillage outside of the former HWSA. As a former HWSA, this SWMU/AOC is recommended for a sampling visit.



**Evaluation Form  
SWMU/Area of Concern  
Number 253**

Name: Vehicle Washrack

Location: Near Building 317

Size: Approximately 100 sq ft

Date of Site Visit: 01 May 1991

Unit Characteristics

A vehicle wash area was discovered during the visual site inspection for Building 317. Floor cleaning vehicles are washed at the base of the ramp leading to the loading dock near the northeast corner of Building 317. The vehicles use Tenant Detergent to clean the floor of the warehouse.

No drains exist near where the vehicles are washed. The water either evaporates from the concrete wash area or flows onto unpaved ground near the railroad tracks. There is a dark stain on the concrete ramp where the vehicles are washed.

Waste Characteristics

Oily water  
Waste Tenant detergent

Possible Migration Pathways

Surface soil

Evidence of Release

Stained concrete ramp

**Evaluation Form  
SWMU/Area of Concern  
Number 253**

Exposure Potential

On-Station personnel

Recommendations

A sampling visit is recommended for this wash area since there is no containment of oily wash water which is able to reach unpaved soil.

**Evaluation Form  
SWMU/Area of Concern  
Number 254**

Name: Chemical Storage Area

Location: South of Building 359

Size: Approximately 30 sq ft

Date of Site Visit: 24 April 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 254**

Unit Characteristics

Twelve 14-gallon plastic containers of Component "A" are stored adjacent to the southeast side of Building 359. This DSA is near a washrack (SWMU/AOC Number 98), oil/water separator 359-B (SWMU/AOC Number 101), and waste oil tank 359-C (SWMU/AOC Number 102) at Building 359. Component "A" is a reactive chemical used at the facility's electronic component packing operation. (No additional information about Component "A" was presented on the container labels.) Most of the containers had residual amounts of the chemical; however, two containers were about 1/4 full. The containers appeared to have been stored at this location for a long time because the plastic appeared weathered from the sun. The containers were stored on asphalt paved ground.

Waste Characteristics

Component "A"

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

There was no evidence of a release from this DSA. The pavement also appeared to be free of cracks. No further action is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 255**

Name: Hazardous Waste Storage Area

Location: Southwest of Bldg. 643

Size: 144 sq ft

Date of Site Visit: 01 May 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 255**

Unit Characteristics

A hazardous waste storage area (HWSA) is located southwest of Building 606, approximately 67 ft west of Building 643. The HWSA consists of a 12-ft by 12-ft concrete pad covered by an aluminum roof. The pad has concrete berms. An access ramp is located on the southeast side of the HWSA. A sump is located in the west corner of the HWSA. The HWSA is bordered on all sides by asphalt pavement. A storm drain is located approximately 80 ft west of the HWSA.

The concrete pad is darkly stained around the sump. A liquid surface was observed approximately 1 in. below the surface in the sump cover. Several large dark stains were observed on the eastern and northern berms of the HWSA. The asphalt around the HWSA has many dark stains. A dark stain extends from the northwest side of the HWSA to the nearby storm drain.

Waste Characteristics

Waste oil  
Hydraulic fluid  
Waste JP-5  
Paint stripper

Possible Migration Pathways

Soil  
Storm drain

Evidence of Release

Stains on storage pad, concrete berms, and asphalt around HWSA

Exposure Potential

Authorized on-Station personnel

Recommendations

A sampling visit is recommended for this HWSA.



**Evaluation Form  
SWMU/Area of Concern  
Number 256**

Name: Hazardous Waste Storage Area

Location: Near Building 442

Size: 100 sq ft

Date of Site Visit: 02 May 1991



Period of Operation

Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 256**

Unit Characteristics

A former hazardous waste storage area (HWSA) is located near the HWSA at Building 441 (SWMU/Area of Concern Number 126). The former HWSA was observed in this area during previous site visits. The HWSA was located approximately 40 ft west of the present HWSA. The HWSA consisted of a sandbag berm with a plastic liner atop unpaved soil. At the time of the visual site inspection, the HWSA was characterized by unpaved soil with sand present. An area of darkened soil was observed west of the former HWSA.

Waste Characteristics

The waste is assumed to be the same as for SWMU/AOC Number 126:

PD-680

Waste oil

Absorbent material

Possible Migration Pathways

Soil

Evidence of Release

Stain located west of the HWSA

Exposure Potential

Authorized on-Station personnel

Recommendations

A sampling visit is recommended for this former HWSA.



**Evaluation Form  
SWMU/Area of Concern  
Number 257**

Name: Wash Water Runoff Site

Location: Fuel Station 575

Size: Approximately 1/2 acre

Date of Site Visit: 13 May 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 257**

Unit Characteristics

Based on an interview with an employee at MCAS El Toro, the Direct Fueling Stations were frequently washed and the runoff was allowed to flow to unpaved areas. Fuel stations 574 and 575 are located on the northeast side of the Aircraft Control Tower. For a description of the area at fuel station 574, see Evaluation Form for SWMU/AOC Number 16.

Aircraft at fuel station 575 are refueled on concrete fuel pads. The fuel pads are sloped so that runoff flows in a southwest direction. Near the southwest end of the fuel pads are two parallel diversion gutters. The gutters bisect the fuel pad to direct runoff toward an unpaved area located on the north side of each of the fuel stations.

The fuel station has stains on both paved and unpaved areas. A drainage path has been eroded in the unpaved soil area north of the fuel pads. The drainage path leads from the gutters' exit point to a storm drain located in the center of the unpaved areas.

A drain outlet is located near the northeast end of the unpaved area north of fuel station 574. The opening appears to come from storm drains located near Bldgs 605 and 606. The outlet opens to an unlined ditch which runs the length of the unpaved and empties into the storm drain located at the west end of the area.

Waste Characteristics

Waste JP-5

Possible Migration Pathways

Surface soil  
Storm drain

Evidence of Release

Stains were observed at paved and unpaved areas. A drainage path cutting through the unpaved area indicates the potential for runoff to carry spilled JP-5 to the unpaved area and possibly down the storm drain.

**Evaluation Form  
SWMU/Area of Concern  
Number 257**

Exposure Potential

Authorized on-Station personnel

Recommendations

A sampling visit is recommended for this area.

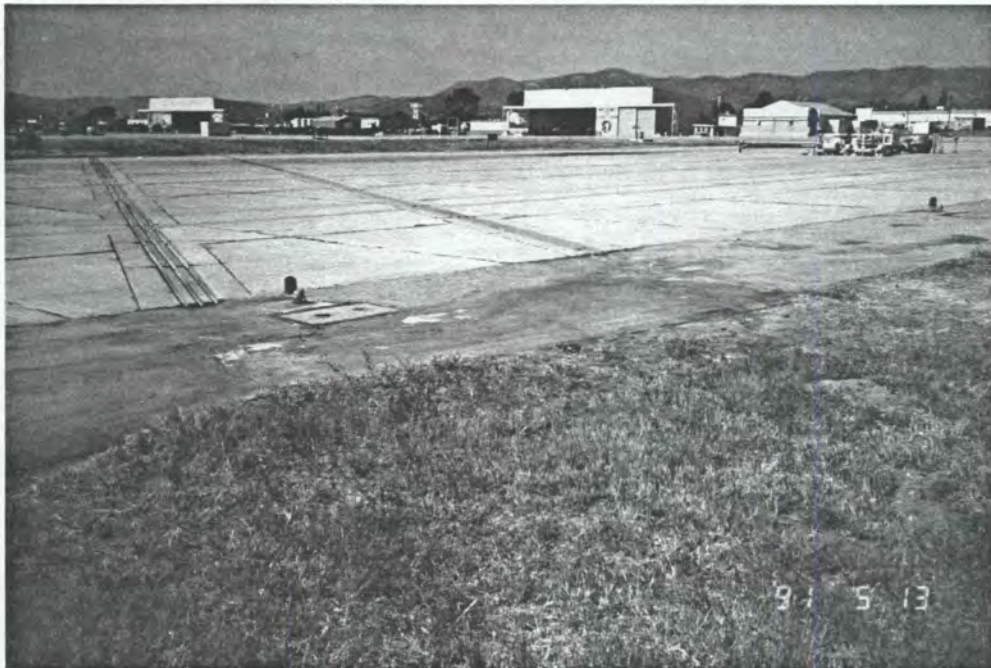
**Evaluation Form  
SWMU/Area of Concern  
Number 258**

Name: Wash Water Runoff Site

Location: Fuel station 577

Size: Approximately 1/2 acre

Date of Site Visit: 13 May 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 258**

Unit Characteristics

Based on an interview with an employee at MCAS El Toro, the Direct Fueling Stations were frequently washed and the runoff was allowed to flow to unpaved soil areas. Fuel stations 576 and 577 are located on the southeast side of the Aircraft Control Tower. For a description of the area at fuel station 576, see the Evaluation Form for SWMU/AOC Number 15.

Aircraft at fuel station 577 are refueled on concrete fuel pads. The fuel pads are sloped so that runoff flows in a southwest direction. Near the southwest end of the fuel pads are two parallel diversion gutters. The gutters bisect the fuel pad to direct runoff toward an unpaved area located on the south side of each of the fuel stations.

The fuel station has stains on both paved and unpaved areas. In addition, the fuel station has another large stain south of the fuel pad, on an asphalt lining which lies between the concrete fuel pad and the unpaved area. A drainage path has been eroded in the unpaved soil area south of the fuel pads. The drainage path leads from the gutters' exit point to a storm drain located in the center of the unpaved areas.

Waste Characteristics

Waste JP-5

Possible Migration Pathways

Surface soil  
Storm drain

Evidence of Release

Stains were observed at paved and unpaved areas. A drainage path cutting through the unpaved area indicates the potential for runoff to carry spilled JP-5 to the unpaved area and possibly down the storm drain.

Exposure Potential

Authorized on-Station personnel

**Evaluation Form  
SWMU/Area of Concern  
Number 258**

Recommendations

A sampling visit is recommended for this area.

**Evaluation Form  
SWMU/Area of Concern  
Number 259**

Name: Drum Storage Area

Location: Loading Ramp 389

Size: 100 sq ft

Date of Site Visit: 02 May 1991



Period of Operation



**Evaluation Form  
SWMU/Area of Concern  
Number 259**

Unit Characteristics

During the visual site inspection, a possible drum storage area (DSA) was identified approximately 25 ft southwest of Loading Ramp 389. This area consists of a concrete pad currently being used for storage of large generators. The concrete pad had two dark stains, one located near the southeast corner and the other near the northwest corner. A large generator was present on the western portion of the pad at the time of the visual site inspection. The concrete pad is bordered north and east by asphalt pavement and on the south and west by unpaved soil. There was no evidence of staining at the unpaved areas.

Waste Characteristics

Unknown

Possible Migration Pathways

Soil

Evidence of Release

Stains present on concrete pad

Exposure Potential

On-Station personnel

Recommendations

No further action is recommended for this area.

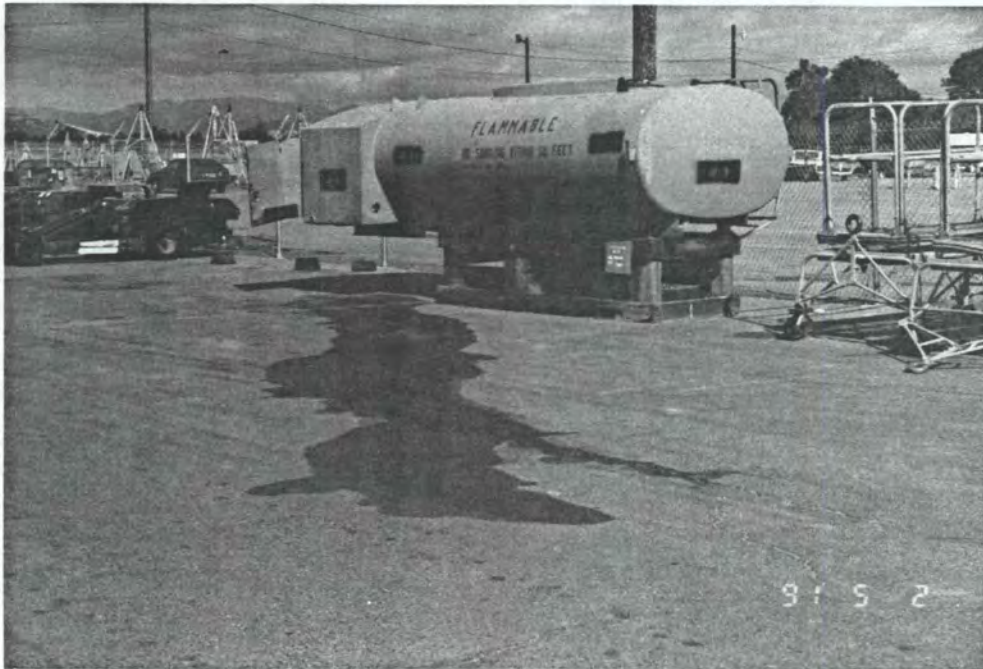
**Evaluation Form  
SWMU/Area of Concern  
Number 260**

Name: Above Ground Storage Tank

Location: Near Loading Ramp 389

Size: Approximately 1,000 gallons

Date of Site Visit: 02 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 260**

Unit Characteristics

An above ground storage tank for JP-5 fuel is located southeast of Loading Ramp 389. The tank is approximately 4 ft above the ground surface, atop a wooden support structure. The entire area surrounding the tank is asphalt paved. A large stain was observed on the pavement at the northwest side of the tank. It originates from beneath the north end of the tank and extends approximately 25 ft southwest of the tank. There is a crack in the pavement at the stain.

Waste Characteristics

JP-5 fuel

Possible Migration Pathways

Soil

Evidence of Release

Stain observed on the asphalt pavement located northwest of the tank

Exposure Potential

On-Station personnel

Recommendations

The stained area indicates that a spill has occurred at this tank. Since the pavement is cracked at the stained area, it is possible that soil has been impacted by this release. A sampling visit is recommended for this SWMU/AOC.



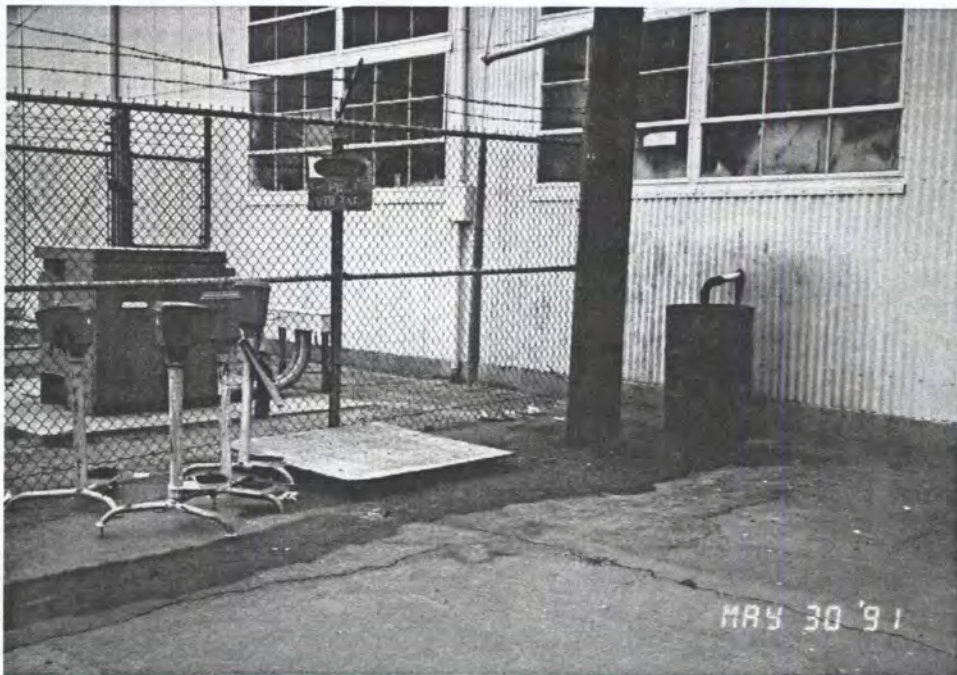
**Evaluation Form  
SWMU/Area of Concern  
Number 261**

Name: Waste Oil Collection Drum

Location: South Side of Building 390

Size: 55 gallons

Date of Site Visit: 03 May 1991



Period of Operation

Currently in operation

**Evaluation Form  
SWMU/Area of Concern  
Number 261**

Unit Characteristics

A 55-gallon steel drum is located adjacent to the south wall of Building 390, adjacent to the east border fence of a high voltage area. The drum is used to store waste oil from the maintenance shop at Building 390. A funnel is located inside the building where employees dump waste oil. Oil flows through a PVC pipe to the exterior side of the building wall where it is discharged to the 55-gallon drum. The drum is stored on an asphalt paved surface. A large dark stain extends from the area beneath the drum south for approximately 25 ft. The asphalt in this area has several large cracks, including in the stained area.

Waste Characteristics

Waste oil

Possible Migration Pathways

Soil

Evidence of Release

Staining on the asphalt pavement directly beneath and leading from the drum

Exposure Potential

On-Station personnel

Recommendations

Evidence of waste oil spillage was observed at the site. Since the paved surface contains cracks, it is possible that a release to soil has occurred. A sampling visit is recommended for this site.



**Evaluation Form  
SWMU/Area of Concern  
Number 262**

Name: Diesel Storage Locker

Location: South of Building 390

Size: 64 sq ft

Date of Site Visit: 03 May 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 262**

Unit Characteristics

A metal storage locker is located south of Building 390, approximately 6 ft from the south boundary fence of the facility. The locker is used to store 55-gallon drums of diesel fuel. The fuel is dispensed from the drums into the lawn equipment used on the golf course. The locker is located on asphalt pavement. The locker is bordered on the south side by unpaved dirt. The asphalt beneath and around the locker is darkly stained. The most significant stains are located on the east and west ends of the locker. The stain on the west end extends to a point approximately 25 ft northwest of the structure. The asphalt pavement in this area has many cracks.

Waste Characteristics

Diesel fuel

Possible Migration Pathways

Soil

Evidence of Release

Stained asphalt beneath and around the storage locker

Exposure Potential

On-Station personnel

Recommendations

There is evidence of routine diesel fuel spills in this area. Since the pavement is cracked, it is possible that soil has been impacted by the releases. A sampling visit is recommended for this area.

**Evaluation Form  
SWMU/Area of Concern  
Number 263**

Name: Underground Storage Tank

Location: Building 374

Size: Unknown

Date of Site Visit: 03 May 1991



Period of Operation

Unknown

**Evaluation Form  
SWMU/Area of Concern  
Number 263**

Unit Characteristics

A possible abandoned underground storage tank (UST) was discovered on the west side of Building 374 during the visual site inspection. The site is characterized by a semicircular concrete berm located at the west side of Building 374. The area within the semicircle is unpaved. Three large, black valves protrude from the ground in the central portion of the semicircular area. Below the surface are two concrete housing units. The opening at the ground surface above these units is covered with 4-in. by 6-in. boards. A strong petroleum odor was observed near the opening to the pump housing units. A black and yellowish liquid was present inside the housing units, approximately 2 inches below the top of the units. Several patches of darkly stained soil were also observed in this area.

Waste Characteristics

Unknown petroleum product

Possible Migration Pathways

Soil  
Air

Evidence of Release

Stained surface soil around site

Exposure Potential

On-Station personnel

Recommendations

A sampling visit is recommended for this area.



**Evaluation Form  
SWMU/Area of Concern  
Number 264**

Name: DRMO Storage Yard #3

Location: North 3rd St and East Marine Way

Size: Approximately 3 acres

Date of Site Visit: 02 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 264**

Unit Characteristics

DRMO Storage Yard #3 is located on the southeast corner of North 3rd Street and East Marine Way. The entrance to the storage yard is located at the southern corner of the site. The storage yard is used to store miscellaneous items and equipment including tires, automobiles, refrigerators and other appliances. The entire area of the storage yard is unpaved with a thin layer of gravel over most of the surface. There is little or no vegetation within the lot. The perimeter of the lot is enclosed with chain-link fencing. The storage yard is bordered on the southwest side by North 3rd Street and on the remaining sides by unpaved areas.

Several areas of darkly stained soil were observed in the storage yard. The most significant stain was located in the central portion of the storage yard near the jeep storage area. Other stains were observed in the storage yard at the north corner, the west corner near the tire storage area, and the southeast side near the appliance storage area. The stains appeared to be crankcase oil.

Waste Characteristics

Waste oil

Possible Migration Pathways

Surface Soil

Evidence of Release

Areas of stained soil observed throughout the storage yard

Exposure Potential

Authorized on-Station personnel

Recommendations

A sampling visit is recommended for this storage yard.



**Evaluation Form  
SWMU/Area of Concern  
Number 265**

Name: Abandoned Metal Plating Sewer Lines

Location: Between Buildings 295, 296, and 297 and the Former Sewage  
Treatment Plant

Size: Approximately 3,000 feet in length

Period of Operation

Active in the mid-1940s  
Currently inactive

Unit Characteristics

Based on an interview of a retired employee, these lines for metal plating waste were installed in approximately 1945 and were used for only about one year during World War II. The lines were placed adjacent to the sanitary sewer lines which are still active at the Station. Because these abandoned sewer lines are located underground, the physical condition of the lines was not able to be visually observed.

Waste Characteristics

Metal plating wastes

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel



**Evaluation Form  
SWMU/Area of Concern  
Number 265**

Recommendations

Because these abandoned sewer lines were used for transporting metal plating wastes to the former sewage treatment plant (SWMU/AOC Number 90) and were not used for typical sanitary sewer waste, a sampling visit is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 266**

Name: Aboveground Storage Tank

Location: North of Washrack 765

Size: Two tanks approximately 500 gallons each

Date of Site Visit: 19 April 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 266**

Unit Characteristics

Two above ground waste oil storage tanks were discovered near Building 765 during the visual site inspection for this area. The tanks are located near the northeast side of washrack 765 (SWMU/AOC Number 216). The tanks are approximately 500 gallons in volume. One of the tanks is approximately 1/4 filled with a petroleum liquid. The quantity or content of the other tank could not be observed. There are several dark stains on the asphalt surface around the tanks which may be related to the tanks. The pavement is not cracked in the area around these tanks.

Waste Characteristics

Waste oil

Possible Migration Pathways

Soil

Evidence of Release

Stained asphalt near storage tanks

Exposure Potential

On-Station personnel

Recommendations

There are some stains on the pavement in the area near the tanks but the pavement is free of cracks. No further action is recommended for this SWMU/AOC.



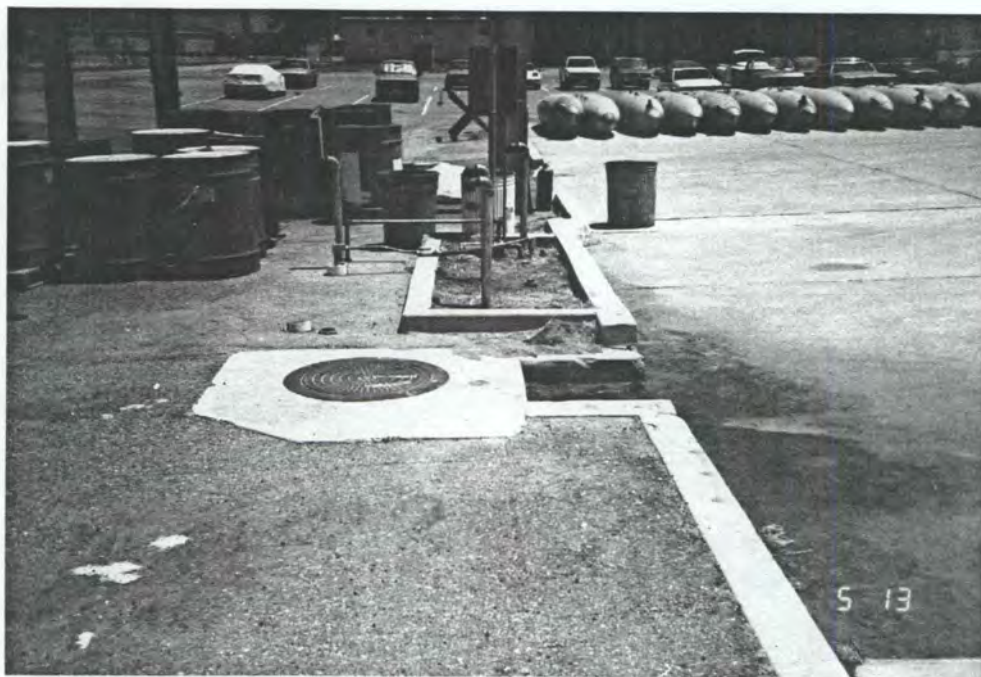
**Evaluation Form  
SWMU/Area of Concern  
Number 267**

Name: Drop Tank Fuel Storage Area

Location: Bldg. 605

Size: Approximately 5,000 sq ft

Date of Site Visit: 13 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 267**

Unit Characteristics

An aircraft drop fuel tank storage area, southwest of Buildings 605 and 606, was identified in an interview with an employee at MCAS El Toro. The storage area was used to store removable aircraft fuel tanks while maintenance work was performed on the aircraft. The employee said that there were several incidents in which workers drained the excess fuel from the tanks onto the ground or into a storm drain.

During the visual site inspection, it was observed that there are separate drop tank storage areas at Buildings 605 and 606. For a description of the drop tank storage area at Building 606, see the Evaluation Form for SWMU/AOC Number 14.

The aircraft fuel tanks at Building 605 are stored on metal storage racks located in an asphalt paved area adjacent to the northwest corner of Building 605. The storage area is not protected by a berm. It is surrounded by the tarmac to the south and west sides and by an unpaved area on the east side. There are several dark stains on the asphalt near and under the storage racks. Also, there are several spots where the asphalt is in poor condition.

Waste Characteristics

Waste JP-5

Possible Migration Pathways

Soil  
Storm drain

Evidence of Release

Stained and eroded asphalt near Building 605

Exposure Potential

Authorized on-Station personnel

Recommendations

This SWMU/AOC is located on the tarmac (about 18-inch thick concrete), which is free of cracks. A sampling visit is not recommended for this area.



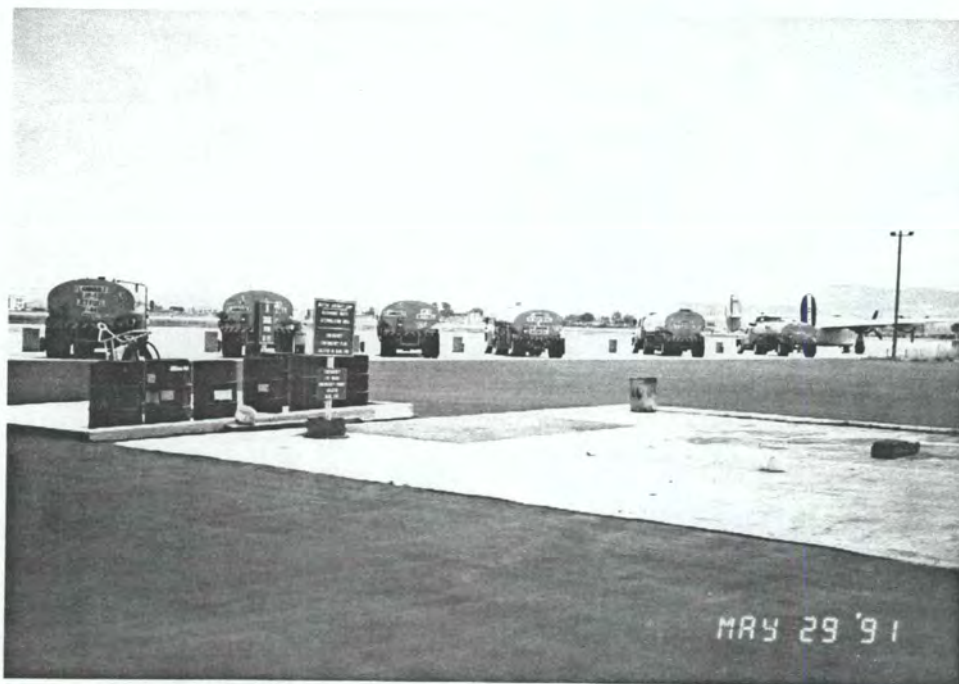
**Evaluation Form  
SWMU/Area of Concern  
Number 268**

Name: Vehicle Washrack

Location: Southeast of Building 240

Size: 144 sq ft

Date of Site Visit: 19 April 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 268**

Unit Characteristics

A washrack is located approximately 50 ft southeast of Building 240. The washrack consists of a concrete wash pad surrounded by a 6 inch concrete berm. A drain leading to oil/water separator 240-C (SWMU/AOC Number 66) is located near the northwest corner of the wash pad. The washrack surface has numerous dark stains. However, there are no significant cracks in the wash pad or the berm surrounding the washrack.

The washrack is used to wash fuel pump trucks and trailers. The washrack is also used to perform some maintenance work on the vehicles. Before work is performed on the trailers, the excess fuel in the lines is emptied into the drain of the washrack.

Waste Characteristics

Oily water  
Waste JP-5

Possible Migration Pathways

Oil/water separator  
Storm drain  
Soil

Evidence of Release

Stained wash pad

Exposure Potential

On-Station personnel

Recommendations

The washrack is constructed of concrete that is sloped to collect the wash water in a drain connected to an oil/water separator. The concrete appeared to be free of cracks or defects that would allow wash water to exit the washrack other than at the drain. No further action is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 268**

It should be noted that the past and present receptors of the wash water (i.e., the drainage channels via storm drain and the oil/water separator) are identified as SWMU/AOCs recommended for a sampling visit.

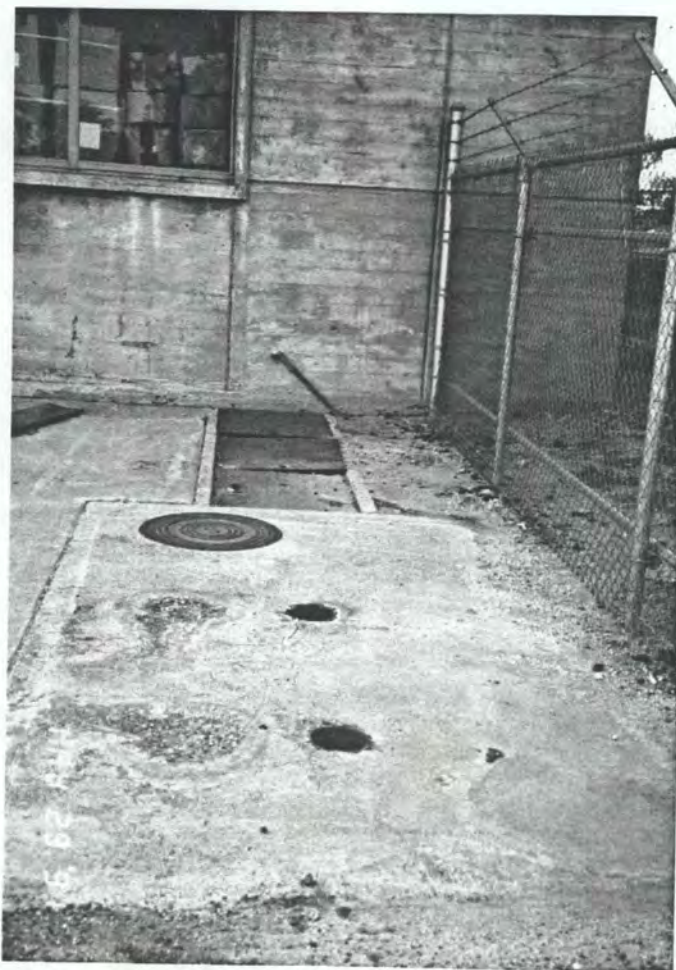
**Evaluation Form  
SWMU/Area of Concern  
Number 269**

Name: Underground Storage Tank

Location: West of Building 314

Size: Unknown

Date of Site Visit: 24 April 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 269**

Unit Characteristics

An underground storage tank area west of Building 314 was discovered during the VSI for SWMU/AOC Number 91. This area appears to be the location of three underground storage tanks. The top surface of the storage area is approximately 2,500 sq ft in size. The location of the tanks is identified by three wood housing vaults. The housing vaults provide cover for the top of the USTs. Inside one vault, the top opening of a UST was observed. A liquid surface could be seen approximate 2 in. from the top of the tank. There was also a hose stored inside the vault with one end placed inside the tank opening. The hoses appeared to be used for filling the tank. The inside of the housing vaults and the ground surrounding the housing vaults is stained. A strong petroleum odor is present around the storage area.

Waste Characteristics

Waste petroleum (possibly oil and/or JP-5)

Possible Migration Pathways

Subsurface soil

Evidence of Release

Staining inside and surrounding the housing vaults

Exposure Potential

On-Station personnel

Recommendations

These tanks have not been tank tested. There are stains on the pavement around these tanks although soil does not appear to be impacted. Since it is difficult to assess the potential for release from these underground tanks, a sampling visit is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 270**

Name: Vehicle Washrack

Location: Near Building 817

Size: Approximately 1,000 sq ft

Date of Site Visit: 5 May 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 270**

Unit Characteristics

A washrack was observed during the VSI for oil/water separator 817 (SWMU/AOC Number 233). The washrack is located adjacent to the west side of Building 817. It is approximately 1,000 sq ft in size. The washrack consists of a concrete wash pad bordered by a 5-in. concrete berm on the south side of the washrack and a 3-ft concrete wall on the north side of the washrack. The washrack is graded so that runoff flows toward a drain centrally located within the wash pad. No significant stains or cracks were observed on the concrete wash surface. Vegetation was observed growing out from the drain leading to the oil/water separator.

The washrack has a concrete ramp leading into the wash surface from the west side of the washrack. It appears as though equipment is washed on the ramp rather than the washrack. At the time of the VSI, the ramp and an asphalt area at the base of the ramp were wet from an earlier washing. The runoff from the ramp flows toward an unpaved area adjacent to the south side of the ramp.

Waste Characteristics

Oily water

Possible Migration Pathways

Surface soil

Evidence of Release

Wet ramp leading to washrack

Exposure Potential

On-Station personnel

Recommendations

During the site visit, it appeared that wash operations occurred outside of the washrack area and runoff of oily water had flowed to unpaved soil. A sampling visit is recommended for this SWMU/AOC.



**Evaluation Form  
SWMU/Area of Concern  
Number 271**

Name: Hazardous Waste Storage Area

Location: North of Bldg. 392

Size: 144 sq ft

Date of Site Visit: 07 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 271**

Unit Characteristics

This hazardous waste storage area (HWSA) is located approximately 5 ft northeast of another HWSA (SWMU/AOC Number 124). It is used by the occupants of the south half of Building 392. The HWSA consists of a 12-ft by 12-ft concrete storage pad surrounded by a 6-in. concrete berm. The HWSA does not have a sump nor a roof covering the storage area. At the time of the VSI, the storage area was empty and no significant stains or cracks were observed in the HWSA.

The HWSA is surrounded by unpaved soil on three sides and asphalt on the north side. A 3-ft by 8-ft stain was observed approximately 10 south of the HWSA, on unpaved soil.

Waste Characteristics

Unknown

Possible Migration Pathway

Soil

Evidence of Release

A stain was observed near the HWSA on unpaved soil

Exposure Potential

Authorized on-Station personnel

Recommendations

A sampling visit is recommended for this HWSA.



**Evaluation Form  
SWMU/Area of Concern  
Number 272**

Name: Hazardous Waste Storage Area

Location: Building 31

Size: 144 sq ft

Date of Site Visit: 14 May 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 272**

Unit Characteristics

The hazardous waste storage area (HWSA) is located approximately 40 ft northwest of Building 31. The HWSA consists of a concrete pad with a 6-in. concrete berm. The HWSA has an aluminum roof covering and a sump. The HWSA is bordered on all sides by unpaved soil. There was no staining observed on the concrete pad or ground surface around the HWSA.

Waste Characteristics

Waste oil  
Hydraulic fluid

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

Although there is no evidence of a release at this HWSA, a sampling visit is recommended for the HWSAs at the Station.

**Evaluation Form  
SWMU/Area of Concern  
Number 273**

Name: Wash Area

Location: Building 31

Size: 240 sq ft

Date of Site Visit: 14 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 273**

Unit Characteristics

A wash area is located adjacent to the northwest side of Building 31. The wash area consists of a concrete pad measuring approximately 40 ft by 60 ft. No cracks or significant stains were observed on the concrete surface. The pad abuts Building 31 to the southeast and is bordered by unpaved soil on its remaining three sides. A 4-in. gutter is cut into the northwest side of the pad. The pad is sloped to the southwest thereby directing runoff into the drain and off the pad at an outlet located at the west corner of the pad. Runoff from the pad has created an eroded drainage-way to the southwest. The drainage-way originates at the west corner of the pad and leads southwest off the storage yard boundary.

Waste Characteristics

Oily water

Possible Migration Pathways

Soil

Evidence of Release

Eroded soil drainage-way leading from wash area

Exposure Potential

On-Station personnel

Recommendations

Runoff from this wash water routinely flows to unpaved soil. A sampling visit is recommended for this SWMU/AOC.



**Evaluation Form  
SWMU/Area of Concern  
Number 274**

Name: Stockpiled Soil

Location: West of Building 31

Size: 300 sq ft

Date of Site Visit: 14 May 1991



Period of Operation

Unknown

**Evaluation Form  
SWMU/Area of Concern  
Number 274**

Unit Characteristics

Two piles of soil are located near the western corner of the Building 31 storage yard. The origin of the piles was not apparent. The piles consist of soil placed atop a canvas liner over wooden pallets. The piles are located on unpaved soil. No significant stains were observed on the soil. A faint petroleum odor originating from the piles was observed. It is possible that this soil may be associated with a landfarming effort.

Waste Characteristics

Unknown petroleum product

Possible Migration Pathways

Soil

Evidence of Release

None observed

Exposure Potential

Authorized on-Station personnel

Recommendations

Since this soil was stockpiled on a canvas liner and there was no evidence of a release to the soil below, no further action is recommended.

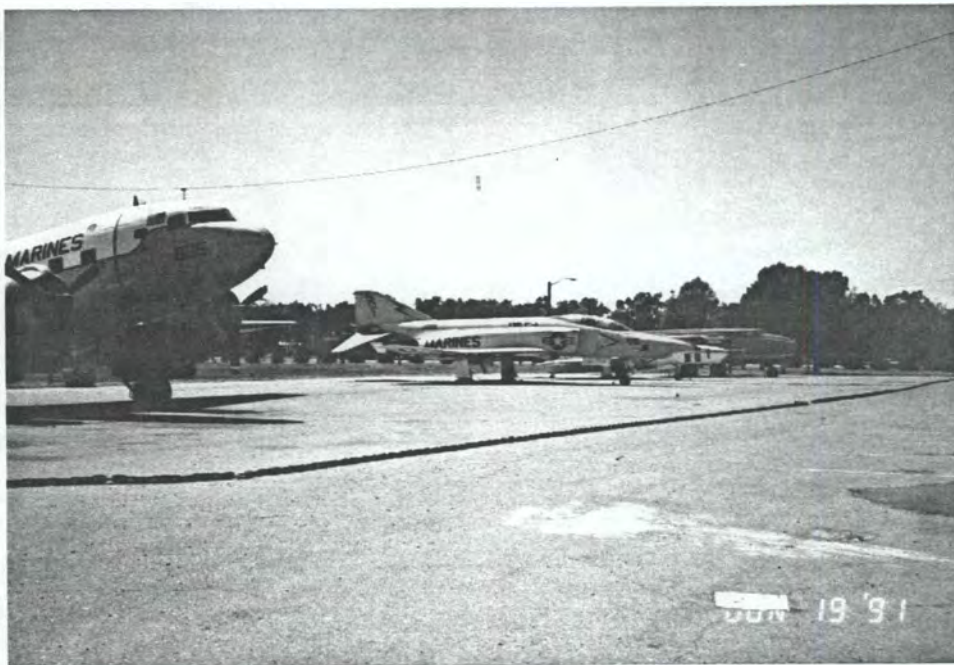
**Evaluation Form  
SWMU/Area of Concern  
Number 275**

Name: Underground Storage Tank 186

Location: Tank Farm 1 (no longer existing)

Size: 25,000 gallons

Date of Site Visit: 19 June 1991



Period of Operation

Installed in 1943

Closed in 1965



**Evaluation Form  
SWMU/Area of Concern  
Number 275**

Unit Characteristics

Tank Farm 1 is no longer in existence. It was located south of the intersection of W. Marine Way and S. 8th Street, in the vicinity of Hazardous Waste Storage Area 771 (SWMU/AOC Number 224). Four tanks were arranged in a rectangular pattern, with Tank 186 in the eastern corner, Tank 187 in the southern corner, Tank 185 in the western corner, and Tank 184 in the northern corner, . According to the Underground Utilities Map (Y. & D. Drawing No. 262026 of Contract No. NOY 5421), Tank 186 was located 81 ft southwest of the centerline of S. 8th Street and 86 ft northwest of the centerline of a cul-de-sac of W. Marine Way.

According to the Underground Storage Tank Report by EG&G (1990), Tank 186 is has a 25,000-gallon capacity and is constructed with concrete walls. The contents of the tank are unknown. Currently, the location of Tank 186 is an asphalt paved surface where old marine aircraft are on static display. The area was inspected but no evidence of Tank 186 was observed.

Waste Characteristics

Unknown

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The contents of Tank 186 are unknown. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 276**

Name: Underground Storage Tank 187

Location: Tank Farm 1 (no longer existing)

Size: 50,000 gallons

Date of Site Visit: 19 June 1991



Period of Operation

Installed in 1943

Closed in 1965



**Evaluation Form  
SWMU/Area of Concern  
Number 276**

Unit Characteristics

Tank Farm 1 is no longer in existence. It was located south of the intersection of W. Marine Way and S. 8th Street, in the vicinity of Hazardous Waste Storage Area 771 (SWMU/AOC Number 224). Four tanks were arranged in a rectangular pattern, with Tank 187 in the southern corner, Tank 186 in the eastern corner, Tank 185 in the western corner, and Tank 184 in the northern corner. According to the Underground Utilities Map (Y. & D. Drawing No. 262026 of Contract No. NOY 5421), Tank 187 was located 167 ft southwest of the centerline of S. 8th Street and 86 ft northwest of the centerline of a cul-de-sac of W. Marine Way.

According to the Underground Storage Tank Report by EG&G (1990), Tank 187 is has a 50,000-gallon capacity and is constructed with concrete walls. The contents of the tank are unknown. Currently, the location of Tank 187 is an asphalt paved surface where old marine aircraft are on static display. The area was inspected but no evidence of Tank 187 was observed.

Waste Characteristics

Unknown

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The contents of Tank 187 are unknown. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.



**Evaluation Form  
SWMU/Area of Concern  
Number 277**

Name: Underground Storage Tank 188

Location: East portion of Tank Farm 3

Size: 25,000 gallons

Date of Site Visit: 16 June 1991



Period of Operation

Installed in 1948

Removed in 1970

**Evaluation Form  
SWMU/Area of Concern  
Number 277**

Unit Characteristics

Tank Farm 3 is located near the intersection of N. 5th Street and W. Marine Way. The tank farm is divided into two sections by W. Marine Way. Tank 188 is located in the east section of the tank farm. It is located 550 ft north of the centerline of N. 4th Street, and 86 ft east of the centerline of W. Marine Way. Tank 188 was installed in 1943 and removed in 1970. It was a 25,000-gallon, concrete wall, underground storage tank. Its storage contents are not known. Currently, the former location of the east portion of Tank Farm 3 is a grass lawn with Tanks 189 and 191 located along the east side of the lawn (SWMU/AOC Numbers 57 and 59, respectively).

Waste Characteristics

Unknown

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The contents of this tank are unknown. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.



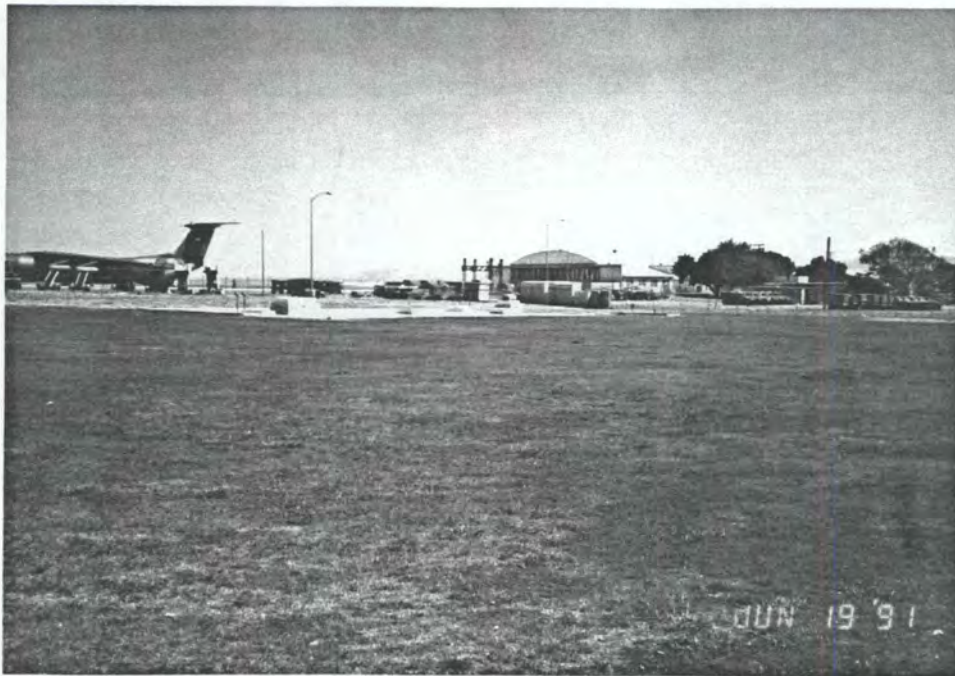
**Evaluation Form  
SWMU/Area of Concern  
Number 278**

Name: Underground Storage Tank 190

Location: East portion of Tank Farm 3

Size: 50,000 gallons

Date of Site Visit: 16 June 1991



Period of Operation

Installed in 1948

Removed in 1967



**Evaluation Form  
SWMU/Area of Concern  
Number 278**

Unit Characteristics

Tank Farm 3 is located near the intersection of N. 5th Street and W. Marine Way. The tank farm is divided into two sections by W. Marine Way. Tank 190 is located in the east section of the tank farm. It is located 636 ft north of the centerline of N. 4th Street, and 86 ft east of the centerline of W. Marine Way. Tank 190 was installed in 1943 and removed in 1967. It was a 50,000-gallon, concrete wall, underground storage tank. Its storage contents are not known. Currently, the former location of the east portion of Tank Farm 3 is a grass lawn with Tanks 189 and 191 located along the east side of the lawn (SWMU/AOC 57 and 59, respectively). No evidence of Tank 190 was observed during the site visit.

Waste Characteristics

Unknown

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The contents of this tank are unknown. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 279**

Name: Underground Storage Tank 193

Location: East portion of Tank Farm 3

Size: 50,000 gallons

Date of Site Visit: 16 June 1991



Period of Operation

Installed in 1948

Removed in 1970



**Evaluation Form  
SWMU/Area of Concern  
Number 279**

Unit Characteristics

Tank Farm 3 is located near the intersection of N. 5th Street and W. Marine Way. The tank farm is divided into two sections by W. Marine Way. Tank 193 is located in the east section of the tank farm. It is located 722-ft north of the centerline of N. 4th Street, and 267-ft east of the centerline of W. Marine Way. Tank 193 was installed in 1943 and removed in 1967. It was a 50,000-gallon, concrete wall, underground storage tank. Its storage contents are unknown. Currently, the former location of the east portion of Tank Farm 3 is a grass lawn with Tanks 189 and 191 located along the east side of the lawn (SWMU/AOC 57 and 59, respectively). No evidence of Tank 193 was observed during the site visit.

Waste Characteristics

Unknown

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The contents of this tank are unknown. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.



**Evaluation Form  
SWMU/Area of Concern  
Number 280**

Name: Underground Storage Tank 195

Location: East portion of Tank Farm 3

Size: 25,000 gallons

Date of Site Visit: 16 June 1991



Period of Operation

Installed in 1948  
Removed in 1970

**Evaluation Form  
SWMU/Area of Concern  
Number 280**

Unit Characteristics

Tank Farm 3 is located near the intersection of N. 5th Street and W. Marine Way. The tank farm is divided into two sections by W. Marine Way. Tank 195 is located in the east section of the tank farm. It is located 808-ft. north of the centerline of N. 4th Street, and 267 ft east of the centerline of W. Marine Way. Tank 195 was installed in 1943 and removed in 1970. It was a 25,000-gallon, concrete wall, underground storage tank. Its storage contents are unknown. Currently, the former location of the east portion of Tank Farm 3 is a grass lawn with Tanks 189 and 191 located along the east side of the lawn (SWMU/AOC 57 and 59, respectively). No evidence of Tank 195 was observed at this location.

Waste Characteristics

Unknown

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The contents of this tank are unknown. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 281**

Name: Underground Storage Tank 252

Location: Building 252

Size: 10,000 gallons

Date of Site Visit: 16 June 1991

According to the Underground Storage Tank Survey Report by EG&G (1990), Tank 252 is a 1,400-gallon, carbon steel, UST. The date of installation and the contents of the tank are unknown. Since Building 252 no longer exists, this tank could not be located in the field. There were no available drawings to locate this tank.



**Evaluation Form  
SWMU/Area of Concern  
Number 282**

Name: Underground Storage Tank 322-B

Location: East of Building 322

Size: Unknown

Date of Site Visit: 16 June 1991

Unit Characteristics

Tank 322-B is located east of Building 322. The location of the tank is identified by a 4-ft by 5-ft concrete pad with a 4-ft by 3-ft galvanized steel cover centrally located within the concrete pad. No significant stains were observed on the concrete pad or the unpaved soil surrounding the pad. Because the tank is located underground, the physical condition of the tank could not be visually observed.

Waste Characteristics

Unknown

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The contents of this tank are unknown. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 283**

Name: Underground Storage Tank 326-B

Location: South of Building 326

Size: Unknown

Date of Site Visit: 16 June 1991



Period of Operation

Installed in 1945  
Currently inactive



**Evaluation Form  
SWMU/Area of Concern  
Number 283**

Unit Characteristics

Tank 326-B is located adjacent to the south side of Building 326. According to the Underground Storage Tank Survey Report by EG&G (1990), the tank was installed in 1945. The material of the tank and its contents are unknown. Building 326 is currently abandoned. The ground surrounding the building is mostly unpaved except for the area on the south side of the building. Tank 326-B is located approximately 30 ft east of the southwest corner of Building 326. The location of the tank is identified by a 3-ft-diameter steel cover. No staining was observed on the asphalt surface near the cover. Since the tank is located underground, the physical condition of the tank could not be visually observed.

Waste Characteristics

Unknown

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The contents of this tank are unknown. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.



**Evaluation Form  
SWMU/Area of Concern  
Number 284**

Name: Underground Storage Tank 347-D

Location: Southwest of Building 347

Size: Unknown

Date of Site Visit: 16 June 1991

Building 347 is located between "D" Street and "G" Street, on the north side of N. 5th Street. The building is an abandoned vehicle gas station. According to the Underground Storage Tank Survey Report by EG&G (1990), Tank 347-D was installed in 1948. The size, material of construction, and contents of the tank are unknown. The asphalt surface on the west side of Building 347 has four 2-ft by 2-ft steel plates, and six 1-ft-diameter fill box covers. The fill box covers appear to be the same covers typically used at service stations. The arrangement of the covers suggest that three underground tanks are at this location. These appear to be the three gasoline tanks 347-A, 347-B, and 347-C at Building 347. No evidence of Tank 347-D was observed in the field.

**Evaluation Form  
SWMU/Area of Concern  
Number 285**

Name: Underground Storage Tank 399

Location: Building 399

Size: Unknown

Date of Site Visit: 16 June 1991

According to the Underground Storage Tank Survey Report, Tank 399 is located near Building 399. The tank was installed in 1955. It is constructed of carbon steel and has a 500-gallon capacity. According to the report, the tank is currently filled with sand. The location of Tank 399 could not be determined in the field. There are also no available drawings to locate this tank.

**Evaluation Form  
SWMU/Area of Concern  
Number 286**

Name: Underground Storage Tank 733-B

Location: East of Building 733

Size: 10,000 gallons

Date of Site Visit: 16 June 1991



Period of Operation

Installed in 1980  
Currently inactive



**Evaluation Form  
SWMU/Area of Concern  
Number 286**

Unit Characteristics

Building 733 is a boiler room for Barracks 669, 732, and 740. According to the Underground Storage Tank Survey Report by EG&G (1990), Tank 733-B is a fiberglass wall, 10,000-gallon underground storage tank. It was installed in 1980. The contents of the tank are unknown. During the VSI, three manhole covers were observed near the northeast side of Building 733. The covers are centrally located within a 36-ft by 25-ft concrete pad. Each of the covers is approximately 3 ft in diameter. There are three USTs at this location: 733-A, 733-B, and 733-C. There was no indication as to which cover was for Tank 733-B.

Waste Characteristics

Unknown

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The contents of this tank are unknown. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.

**Evaluation Form  
SWMU/Area of Concern  
Number 287**

Name: Underground Storage Tank 733-C

Location: East of Building 733

Size: 10,000 gallons

Date of Site Visit: 16 June 1991



Period of Operation

Installed in 1980  
Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 287**

Unit Characteristics

Building 733 is a boiler room for Barracks 669, 732, and 740. according to the Underground Storage Tank Survey Report by EG&G (1990), Tank 733-C is a fiberglass wall, 10,000-gallon underground storage tank. It was installed in 1980. The contents of the tank are unknown. During the VSI, three manhole covers were observed near the northeast side of Building 733. The covers are centrally located within a 36-ft by 25-ft concrete pad. Each of the covers is approximately 3 ft in diameter. There are three USTs at this location: 733-A, 733-B, and 733-C. There was no indication to decipher which cover was for Tank 733-C.

Waste Characteristics

Unknown

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The contents of this tank are unknown. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.



**Evaluation Form  
SWMU/Area of Concern  
Number 288**

Name: Underground Storage Tank 850-A

Location: Building 850

Size: 5,000 gallons

Tank 850-A is located at the current crash crew area. It falls within the investigation boundaries of RI/FS Site 16 (Crash Crew Pit No. 2). This tank is excluded from further consideration in the RFA.

**Evaluation Form  
SWMU/Area of Concern  
Number 289**

Name: Underground Storage Tank 850-B

Location: Building 850

Size: 5,000 gallons

Tank 850-B is located at the current crash crew area. It falls within the investigation boundaries of RI/FS Site 16 (Crash Crew Pit No. 2). This tank is excluded from further consideration in the RFA.

**Evaluation Form  
SWMU/Area of Concern  
Number 290**

Name: Underground Storage Tank 850-C

Location: Building 850

Size: 500 gallons

Tank 850-C is located at the current crash crew area. It falls within the investigation boundaries of RI/FS Site 16 (Crash Crew Pit No. 2). This tank is excluded from further consideration in the RFA.



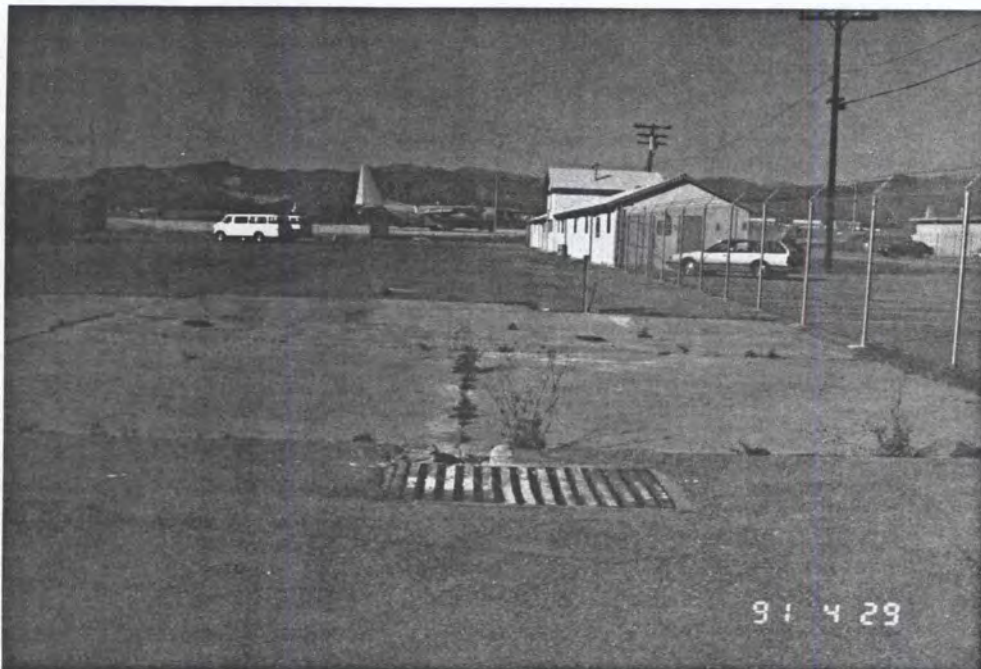
**Evaluation Form  
SWMU/Area of Concern  
Number 291**

Name: Oil/Water Separator

Location: West of Building 96

Size: Unknown

Date of Site Visit: 29 April 1991



Period of Operation

Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 291**

Unit Characteristics

An oil/water separator was discovered during the visual site inspection for the washrack at Building 96 (SWMU/AOC Number 243). The oil/water separator is located adjacent to the west side of the washrack. The top of the oil/water separator is covered with 2-in. steel straps. A liquid level was observed approximately 2 ft below the straps. There was no evidence of release near the asphalt ground surrounding the oil/water separator. Because the oil/water separator is located underground, the physical condition of the separator could not be visually observed.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

This UST has not ben tank tested. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.



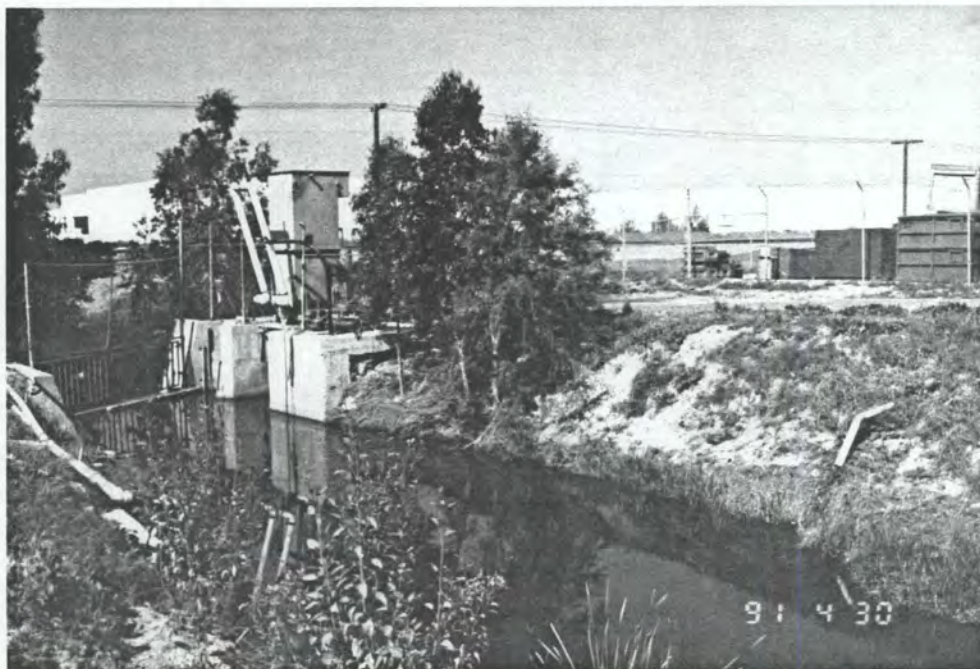
**Evaluation Form  
SWMU/Area of Concern  
Number 292**

Name: Oil/Water Separator 675-B

Location: Agua Chinon Wash at Station boundary

Size: 500 gallons

Date of Site Visit: 30 April 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 292**

Unit Characteristics

Water in the Agua Chinon Wash at the exit of the Station is treated by two oil/water separators before being discharged off-Station. A floating skimmer pump in the wash is used to pump water to an above ground oil/water separator. According to the as-built plans, oil is removed from the water by a belt skimmer and discharged into underground waste oil tank 675-A (SWMU/AOC Number 188) located adjacent to the separator. Treated water is discharged back into the wash through a PVC return pipe about 100 ft upstream of the separator.

A concrete dam located along the Station boundary fence directs water into the wash past a weir and into a second oil/water separator. According to as-built drawings, a belt skimmer removes the oil from the water and disposes of it in waste oil tank 675-A. The water continues past another weir and is discharged off-Station into the sanitary sewer.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel and off-Station personnel located downstream of the Station

Recommendations

A sampling visit is recommended for the oil/water separators at Agua Chinon Wash.

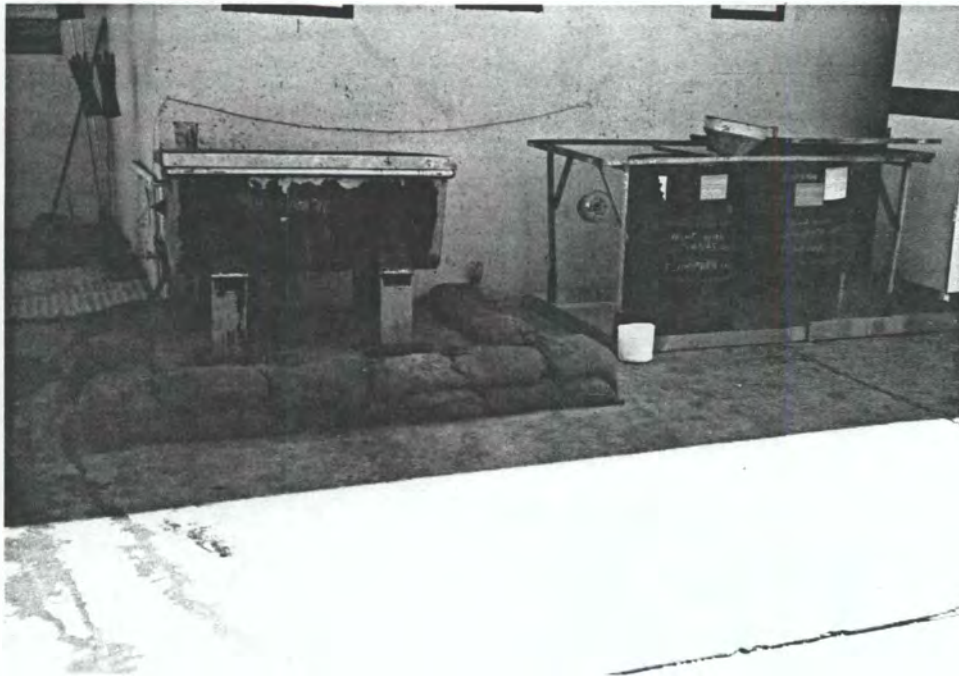
**Evaluation Form  
SWMU/Area of Concern  
Number 293**

Name: Solvent Tank

Location: Building 130

Size: Approximately 20 gallons

Date of Site Visit: 7 May 1991



Period of Operation

Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 293**

Unit Characteristics

A parts cleaning solvent tank was observed near the northwest corner of Building 130 during the VSI for SWMU/AOC Number 42. The solvent tank is approximately 20 gallons in size. The solvent tank is stored on concrete and surrounded by a 1-ft-high, sandbag berm. The concrete near the tank is lightly stained. There were no significant cracks observed near the tank.

Waste Characteristics

Unknown solvent (probably PD-680)

Possible Migration Pathways

Soil

Evidence of Release

Lightly stained concrete near solvent tank

Exposure Potential

On-Station personnel

Recommendations

Although some minor stains were observed on the concrete, there were no cracks in the pavement at this area. No further action is recommended for this tank area.



**Evaluation Form  
SWMU/Area of Concern  
Number 294**

Name: Drum Storage Area

Location: Near northwest corner of Building 130

Size: Approximately 16 sq ft

Date of Site Visit: 7 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 294**

Unit Characteristics

A drum storage area was observed during the VSI for SWMU/AOC Number 42. Two 55-gallon drums were stored near the northwest corner of Building 130. A Hazardous Waste label on the drums stated that the drums are used to store toluene, xylene, chromium, lead, and cadmium. The drums were stored inside metal catch pans. The concrete surface around the catch pans was lightly stained. There were no significant cracks in the concrete observed during the VSI.

Waste Characteristics

Toluene  
Xylene  
Chromium  
Lead  
Cadmium

Possible Migration Pathways

Soil

Evidence of Release

Lightly stained concrete near catch pans

Exposure Potential

On-Station personnel

Recommendations

The concrete at the DSA had minor staining but was free of cracks. No further action is recommended for this area.

**Evaluation Form  
SWMU/Area of Concern  
Number 295**

Name: Drum Storage Area

Location: Building 130

Size: Approximately 36 sq ft

Date of Site Visit: 7 May 1991



Period of Operation

Currently active



**Evaluation Form  
SWMU/Area of Concern  
Number 295**

Unit Characteristics

A drum storage area was observed during the VSI for SWMU/AOC Number 42. Four 55-gallon drums of Chromium product are stored approximately 40 ft west of Building 130. The drums are stored on concrete in an unbermed area. The concrete surface near the drums is lightly stained. There were no significant cracks in the concrete observed during the VSI.

Waste Characteristics

Chromium

Possible Migration Pathways

Soil

Evidence of Release

Lightly stained concrete near drums

Exposure Potential

On-Station personnel

Recommendations

The concrete at the DSA had minor staining but was free of cracks. No further action is recommended for this area.

**Evaluation Form  
SWMU/Area of Concern  
Number 296**

Name: Oil/Water Separator

Location: West of Building 357

Size: Unknown

Date of Site Visit: 16 May 1991



Period of Operation

Currently inactive

**Evaluation Form  
SWMU/Area of Concern  
Number 296**

Unit Characteristics

An oil/water separator was observed during the VSI for SWMU/AOC Number 97. The oil/water separator is located about 3 ft from the west wall of Building 357. The location is identified by a 3-ft by 4-ft steel cover. It appears to be a constructed with steel walls. The vault at the separator was filled with a dark brown liquid and miscellaneous garbage. The piping connection to the separator appeared to be disconnected and the walls of the separator were rusted. Because the separator is located underground, its physical condition could not be visually inspected.

Waste Characteristics

Oily water

Possible Migration Pathways

Subsurface soil

Evidence of Release

None observed

Exposure Potential

On-Station personnel

Recommendations

The UST has not been tank tested. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.



**Evaluation Form  
SWMU/Area of Concern  
Number 297**

Name: Former Asphalt Pavement Plant

Location: Northeast of the Golf Course between N. Marine Way and Perimeter Road

Size: Unknown

While the VSI was in progress, it was learned from an employee of the Station that there had been an asphalt pavement plant operating at the Station about 10 or 15 years ago. The location of the former plant was northeast of the golf course between N. Marine Way and Perimeter Road. It is also located northwest of the Perimeter Road Landfill (RI/FS Site 5). There is currently no remaining evidence of the plant. It is believed that some chunks of asphalt pavement and other construction materials were buried during the demolition. Asphalt is a petroleum-based product which is a solid at ambient air temperatures. Therefore, there is very little potential for migration in the subsurface. No further action is recommended for this area.

**Evaluation Form  
SWMU/Area of Concern  
Number 298**

Name: Underground Storage Tank 392

Location: North of Bldg. 392

Size: Unknown

Date of Site Visit: 07 May 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 298**

Unit Characteristics

An underground storage tank was discovered during the VSI for SWMU/AOC Number 124. The underground storage tank is located approximately 75 ft northeast of Building 392 and 10 ft west of SWMU/AOC Number 124. The location of the UST is identified by a 12-in.-diameter fill pipe protruding approximately 3 ft from the ground. According to personnel working at Building 392, the tank is used to store waste oil. The pipe is surrounded by unpaved soil and asphalt on the west side. The base of the pipe is darkly stained.

Waste Characteristics

Waste oil

Possible Migration Pathway

Subsurface soil

Evidence of Release

Dark stains around the base of the fill pipe

Exposure Potential

Authorized on-Station personnel

Recommendation

The UST has not been tank tested. Although no evidence of a release was indicated from the records review or the site visit, it is difficult to assess the potential for release from this UST. A sampling visit is recommended for this SWMU/AOC.



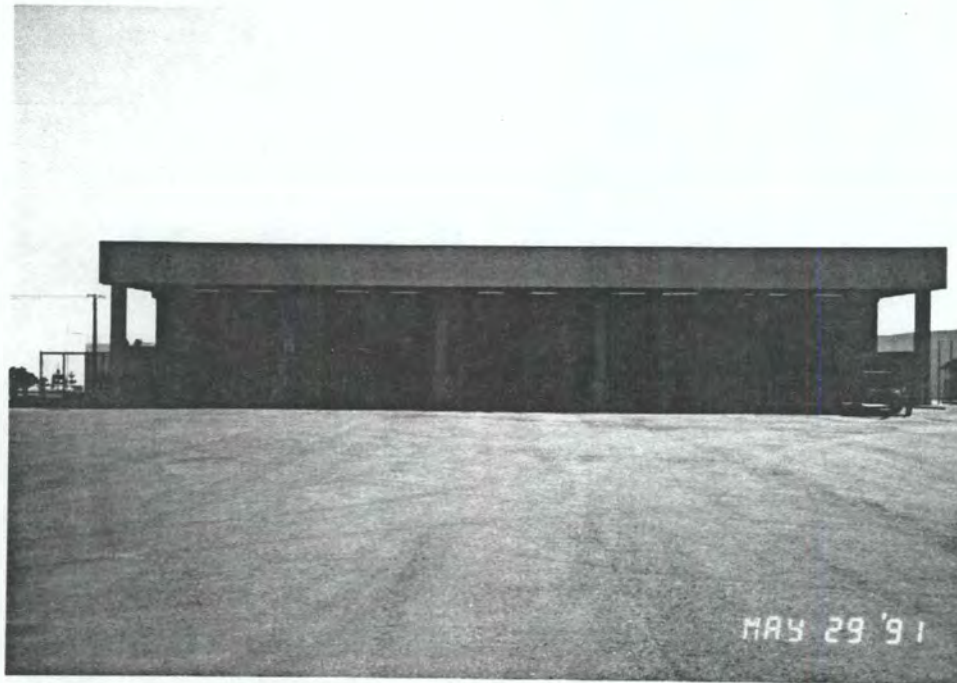
**Evaluation Form  
SWMU/Area of Concern  
Number 299**

Name: Vehicle Washrack

Location: West of Building 800

Size: Approximately 15,000 sq ft

Date of Site Visit: 25 April 1991



Period of Operation

Currently active

**Evaluation Form  
SWMU/Area of Concern  
Number 299**

**Unit Characteristics**

A vehicle washrack is located approximately 200 ft west of Building 800. The washrack is used to clean heavy duty equipment maintained at Building 800. The washrack is approximately 15,000 sq ft in size. The washrack consists of 5 wash stations. Each station is surrounded on three sides by a concrete wall. The washrack drains to oil/water separator 800-F (SWMU/AOC Number 232). No significant stains or cracks were observed in the concrete flooring of the washrack.

**Waste Characteristics**

Oily water

**Possible Migration Pathways**

Soil

**Evidence of Release**

None observed

**Exposure Potential**

On-Station personnel

**Recommendations**

The washrack is constructed of concrete that is sloped to collect the wash water in a drain connected to an oil/water separator. The concrete appeared to be free of cracks or defects that would allow wash water to exit the washrack other than at the drain. No further action is recommended for this SWMU/AOC.

It should be noted that the past and present receptors of the wash water (i.e., the drainage channels via storm drain and the oil/water separator) are identified as SWMU/AOCs recommended for a sampling visit.

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## **Appendix A**

### **COMPREHENSIVE LIST OF USTs**

UST INVENTORY  
FROM EG & G IDAHO, INC. "USMC MCAS EL TORO, UNDERGROUND STORAGE  
TANK MANAGEMENT PLAN (DRAFT)" NOVEMBER 1990

Table 2-9. UST data summary (417 total)

<u>Compliance Dates</u>															
<u>Tank</u>	<u>Install Date</u>	<u>Size (gal)</u>	<u>Tank Type</u>	<u>Corrosion Protection</u>	<u>Release Detection</u>	<u>Total Upgrade</u>	<u>Contents</u>	<u>Risk Value</u>	<u>Operator</u>	<u>Fed. Reg.</u>	<u>State Reg.</u>	<u>Release Det. Method</u>	<u>Leak Test Results</u>	<u>Status</u>	<u>Comments</u>
1A	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1981 1-A,B,C,E
1B	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1981 1-A,B,C,E
6A	1943	1000	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
6B	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1981 1-A,B,C,E
11	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
12	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1981 1-A,B,C,E
13	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
14	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
24	UNK	500	Steel	N/A	N/A	N/A	None	CL	Heat shop			N/A	NT	Inactive	Removed 1976 1-A,C,E, 19-A,E
32	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1981 1-A,B,C,E
33	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
34	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1981 1-A,B,C,E
35	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
37	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	Closed 1957 1-A,B,C,E
38	1943	1500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
40	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	Closed 1960 1-A,B,C,E
41	1943	500	Steel	N/A	N/A	N/A	None	CL	Heat shop			N/A	NT	Inactive	Removed 1960 1-A,B,C,E
42	1943	500	Steel	N/A	N/A	N/A	None	CL	Heat shop			N/A	N/A	Inactive	Removed 1960 1-A,B,C,E
43	1943	500	Steel	N/A	N/A	N/A	None	CL	Heat shop			N/A	N/A	Inactive	Removed 1960 1-A,B,C,E
44	1943	500	Steel	N/A	N/A	N/A	None	CL	Heat shop			N/A	N/A	Inactive	Removed 1960 1-A,B,C,E
45	1943	500	Steel	N/A	N/A	N/A	None	CL	Heat shop			N/A	N/A	Inactive	Removed 1960 1-A,B,C,E
46	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	N/A	Inactive	1-A,B,C,E
47A	1943	1500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	N/A	Inactive	1-A,B,C,E



Table 2-9. UST data summary (417 total)

Tank	Instal. Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
47B	1943	1500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
47C	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
53	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
54A	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
54B	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
55A	1943	5000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
55B	1943	5000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
56A	1943	1400	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
56B	1943	1400	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-C,2-A,B,E,26-A-E
56C	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
57	1943	5000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E,26-A,B,D,E
58	1943	2600	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E,26-A,B,D,E
59	1943	2600	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E,26-A,B,D,E
60	1943	2000	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E,26-A-E
62	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
63	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1962 1-A,B,C,E
65A	1943	1000	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E,2-B,26-A-E
65B	1943	2000	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	N/A	Inactive	1-A,C,E,2-B,26-A-E
66A	1943	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	N/A	Inactive	1-A,B,C,E
66B	1943	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	N/A	Inactive	1-A,B,C,E
67A	1943	1500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	N/A	Inactive	Closed 1978 1-A,B,C,E
67B	1943	1500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	N/A	Inactive	Closed 1978 1-A,B,C,E
68	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	N/A	Inactive	Closed 1974 1-A,B,C,E

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
69	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	N/A	Inactive	Closed 1960 1-A,B,C,E
70	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,B,C,E
71	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1960 1-A,B,C,E
72	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,B,C,E
73	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1960 1-A,B,C,E
74	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1960 1-A,B,C,E
75A	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
75B	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
75C	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
77	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	Closed 1973 1-A, C,E
78	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1973 1-A,B,C,E
79	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1960 1-A,B,C,E
80	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,B,C,E
81	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1960 1-A,B,C,E
82	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1960 1-A,B,C,E
83A	1943	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
83B	1943	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
84A	1943	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	Closed 1978 1-A, B, C, E
84B	1943	1500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1978 1-A,B,C,E
94	1943	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E;26-B
98A	1943	1500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,C,E;2-B;26-B,C
98B	1943	500	C	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1,27-A,B,C,E
105A	1943	1000	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,C,E;2-B;27-A,B,C,E

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
105B	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,C,E;2-B
114	1966	560	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B; 10-D;30
115	1966	560	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B; 10-D;30
116	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1964 1-A,B,C,E
117	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1964 1-A,B,C,E
126	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,C,E;2-B
130A	UNK	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A,B,C,E
130B	UNK	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A,B,C,E
133	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,C,E;2-B
138	1943	1000	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,C,E;2-B
159	1943	200	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
176	1943	25,000	CC	1998	1989	1998	JP-5	25	BFS	X	X	IC,ATT	Passed	Active	
177	1943	50,000	CC	1998	1989	1998	JP-5	25	BFS	X	X	IC,ATT	Passed	Active	
178	1943	50,000	CC	1998	1989	1998	JP-5	25	BFS	X	X	IC,ATT	Passed	Active	
179	1943	25,000	CC	1998	1989	1998	JP-5	25	BFS	X	X	IC,ATT	Passed	Active	
180	1943	25,000	CC	1998	1989	1998	Dicel	25	BFS	X	X	IC,ATT	Passed	Active	1-A,B,D,E
181	1943	50,000	CC	1998	1989	1998	Dicel	25	BFS	X	X	IC,ATT	Passed	Active	1-A,B,D,E
182	1943	50,000	CC	1998	1989	1998	Dicel	25	BFS	X	X	IC,ATT	Passed	Active	1-A,B,D,E
183	1943	25,000	CC	1998	1989	1998	Dicel	25	BFS	X	X	IC,ATT	Passed	Active	1-A,D,E; 29-B,C
184	1943	25,000	CC	N/A	N/A	N/A	UNK	CL	BFS			N/A	NT	Inactive	Closed 1965 29-A,B,C,E
185	1943	50,000	CC	N/A	N/A	N/A	UNK	CL	BFS			N/A	NT	Inactive	Closed 1965 29-A,B,C,E
186	1943	25,000	CC	N/A	N/A	N/A	UNK	CL	BFS			N/A	NT	Inactive	Closed 1965 29-A,B,C,E
187	1943	50,000	CC	N/A	N/A	N/A	UNK	CL	BFS			N/A	NT	Inactive	Closed 1965 29-A,B,C,E



Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
188	1943	25,000	CC	N/A	N/A	N/A	None	CL	BFS			N/A	NT	Inactive	Removed 1970 29-A,B,C,E
189	1943	50,000	CC	1998	1989	1998	W Oil	25	BFS	X	X	IC	NT	Active	
190	1943	50,000	CC	N/A	N/A	N/A	None	CL	BFS			N/A	NT	Inactive	Removed 1967 29-A,B,C
191	1943	25,000	CC	1998	1989	1998	W Oil	25	BFS	X	X	IC	NT	Active	
192	1943	25,000	CC	N/A	N/A	N/A	None	CL	BFS			N/A	NT	Inactive	Removed 1970 29-A,B,C,E
193	1943	50,000	CC	N/A	N/A	N/A	None	CL	BFS			N/A	NT	Inactive	Removed 1970 29-A,B,C,E
194	1943	50,000	CC	N/A	N/A	N/A	None	CL	BFS			N/A	NT	Inactive	Removed 1970 29-A,B,C,E
195	1943	25,000	CC	N/A	N/A	N/A	None	CL	BFS			N/A	NT	Inactive	Removed 1970 29-A,B,C,E
196	1943	25,000	CC	1998	1989	1998	Diesel	22	BFS	X	X	IC,ATT	Passed	Active	11-A,B,D,E;29-C
197	1943	50,000	CC	1998	1989	1998	Diesel	22	BFS	X	X	IC,ATT	Passed	Active	11-A,B,D,E;29-C
198	1943	50,000	CC	1998	1989	1998	Diesel	22	BFS	X	X	IC,ATT	Passed	Active	11-A,B,D,E;29-C
199	1943	25,000	CC	1998	1989	1998	Diesel	22	BFS	X	X	IC,ATT	Passed	Active	11-B; 12-A,D,E;29-C
200	1943	25,000	CC	1998	1989	1998	JP-4	22	BFS	X	X	IC,ATT	Passed	Active	12-A,D,E;29-C
201	1943	50,000	CC	1998	1989	1998	JP-4	22	BFS	X	X	IC,ATT	Passed	Active	12-A,D,E;29-C
202	1943	50,000	CC	1998	1989	1998	JP-4	22	BFS	X	X	IC,ATT	Passed	Active	12-A,D,E;29-C
203	1943	25,000	CC	1998	1989	1998	JP-4	22	BFS	X	X	IC,ATT	Passed	Active	12-A,D,E;29-C
204	1943	50,000	CC	1998	1989	1998	R JP-5	22	BFS	X	X	IC,ATT	Passed	Active	
205	1943	25,000	CC	1998	1989	1998	R JP-5	22	BFS	X	X	IC,ATT	Passed	Active	
206	1943	50,000	CC	1998	1989	1998	R JP-5	22	BFS	X	X	IC,ATT	Passed	Active	13-A,B,D,E;29-C
207	1943	50,000	CC	1998	1989	1998	R JP-5	22	BFS	X	X	IC,ATT	Passed	Active	13-A,B,D,E;29-C
208	1943	50,000	CC	N/A	N/A	N/A	UNK	CL	BFS			N/A	NT	Inactive	3-A,B,E;29-C
209	1943	25,000	CC	1998	1989	1998	Av. Gas	22	BFS	X	X	IC,ATT	Passed	Active	12-A,B,E;29C
210	1943	25,000	CC	N/A	N/A	N/A	UNK	CL	BFS			N/A	NT	Inactive	3-A,B,E;29-C

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Total Upgrade	Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection											
211	1943	50,000	CC	1998	1989	1998	Av. Gas	22	BFS		X	X	IC,ATT	Passed	Active	12-A,B,E;29-C
212	1943	50,000	CC	N/A	N/A	N/A	UNK	CL	BFS				N/A	NT	Inactive	3-A,B,E;29-C
213	1943	25,000	CC	1998	1989	1998	Av. Gas	22	BFS		X	X	IC,ATT	Passed	Active	12-A,B,E;29C
214	1943	25,000	CC	N/A	N/A	N/A	UNK	CL	BFS				N/A	NT	Inactive	3-a,B,E;29-C
215	1943	50,000	CC	1998	1989	1998	Av. Gas	22	BFS		X	X	IC,ATT	Passed	Active	11-A,B,E;29C
216	1943	50,000	CC	1998	1989	1998	Dicel	25	BFS		X	X	IC,ATT	Passed	Active	11-A,B,D,E;29-C
217	1943	25,000	CC	1998	1989	1998	Dicel	25	BFS		X	X	IC,ATT	Passed	Active	11-A,B,D,E;29-C
218	1943	25,000	CC	1998	1989	1998	Unleaded	25	BFS		X	X	IC,ATT	Passed	Active	
219	1943	50,000	CC	N/A	N/A	N/A	None	CL	BFS				N/A	NT	Inactive	Removed 1970
220	1943	25,000	CC	N/A	N/A	N/A	None	CL	BFS				N/A	NT	Inactive	Removed 1970
221	1943	25,000	CC	N/A	N/A	N/A	None	CL	BFS				N/A	NT	Inactive	Removed 1970
224	1943	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop				N/A	NT	Inactive	Closed 1959 1-A,B;29-E
240A	1944	8000	Steel	N/A	N/A	N/A	None	CL	ME				N/A	NT	Inactive	Removed 1985 14-A,B;3-E;16-C
240B	1982	185	Steel	1998	1993	1998	W Oil	47	ME		X	X	IC	NT	Active	16-C
240C	1982	100	Steel	N/A	N/A	N/A	O/W	47	ME				N/A	NT	Active	
241	1945	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop				N/A	NT	Inactive	Closed 1959 1-A,C,E;2-B;31-D
243	1944	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop				N/A	NT	Inactive	Closed 1959 1-A,C,E;2-B;31-D
244	1944	100	C	N/A	N/A	N/A	O/W	55	E				N/A	NT	Active	Exempt
247	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop				N/A	NT	Inactive	Closed 1977 1-A,B,E
248	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop				N/A	NT	Inactive	Closed 1977 1-A,C,E;2-B
249	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop				N/A	NT	Inactive	Closed 1977 1-A,C,E;2-B
250	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop				N/A	NT	Inactive	1-A,C,E;2-B
251	1944	2000	C	N/A	N/A	N/A	None	CL	Heat shop				N/A	NT	Inactive	Removed 1-A,B,E

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
252	UNK	1400	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A,B,C,E
253	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1948 1-A,B,E
254	1958	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1961 1-A,B,E
255	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1961 1-A,B,E
256	1945	2000	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B
257	1945	2000	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B
258	1944	2000	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B
259	1945	2600	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,E
260	1945	2600	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1979 1-A,B,E
262A	1944	2600	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1979 1-B;29-A,E
262B	1944	2600	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1979 1-B;29-A,E
263	1945	2000	C	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
264	1945	2000	C	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
265	UNK	1400	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A,B,C,E
266	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,B,E
267	1945	2000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A,B,C,E
268	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1982 1-A,B,E
269	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,B,E
270	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,B,E
271A	1944	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B
271B	1944	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B
271C	1944	500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B
271D	1944	500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B



Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
272	UNK	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 18-B,D
273	1944	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B
274	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1981 1-A,B,E
275	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 18-B,D
276	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B
277	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B
278A	1945	1000	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1982 1-A,B,C,E
278B	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1982 1-A,B,C,E
279	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B
280	1945	2000	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
281	1944	2000	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1987 1-A,C,E; 2-B
282	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,E
283	1945	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1980 1-A,B,E
284	1945	2000	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1974 1-A,B,E
285	1944	2000	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1979 1-A,C,E; 2-B
288	1944	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
292	1944	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B
294	1944	1500	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1960 1-A,B,E
295	1984	1000	FG	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
296	1984	6000	FG	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
297A	1984	6000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
297B	1982	100	Steel	N/A	N/A	N/A	O/W	42	E			N/A	NT	Active	Exempt
297C	1982	185	Steel	1998	1993	1998	W Oil	42	E	X	X	IC	NT	Active	

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
298A	1944	3000	Steel	1998	1989	1998	P. Unl	47	VM	X	X	IC,ATT	Passed	Active	
298B	1944	3000	Steel	1998	1989	1998	Unleaded	47	VM	X	X	IC,ATT	Passed	Active	9-A,E; 13-B,D; 29-C
298C	1982	100	Steel	1998	1993	1998	O/W	42	VM			N/A	NT	Active	Exempt
298D	1982	185	Steel	1998	1993	1998	W Oil	42	VM	X	X	IC	NT	Active	
304	1944	1400	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 26, 30-A-E
306	1944	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
314A	1945	50,000	C	1998	1989	1998	W Oil	45	B	X	X	IC	NT	Active	
314B	1945	50,000	C	1998	1989	1998	W Oil	45	B	X	X	IC	NT	Active	
321	1984	1000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
322B	UNK	UNK	UNK	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A,B,C,E
324A	1945	8000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	4-A,B,E; 29-C
324B	1945	8000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	4-A,B,E; 29-C
324C	1945	8000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	4-A,B,E; 29-C
324D	1945	8000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	4-A,B,E; 29-C
324E	1984	2000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
326A	1945	1700	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	4, 32-A,B,E; 29-C
326B	1945	UNK	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A-E
327	1945	2600	C	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E; 29-C
328	1945	2600	C	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E; 29-C
329	1945	2600	C	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E; 29-C
335	1945	4000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A-E
337A	1946	2600	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1985 1-A,E; 2-B; 29-C
337B	1946	2600	C	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1985 1-A,E; 2-B; 29-C

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
347A	1948	5000	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	5-A,B,C,E
347B	1948	7500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	5-A,B,C,E
347C	1948	10,000	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	5-A,B,C,E
347D	1948	UNK	UNK	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A,B,E
351	1944	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1960
359A	1984	1000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	
359B	1952	100	C	N/A	N/A	N/A	O/W	40	B			N/A	NT	Active	Exempt
359C	1982	500	Steel	1998	1993	1998	SS	40	B	X	X	UNK	NT	Active	
364A	1952	10,000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
364B	1952	2000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
365	1954	2500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
366	1954	2500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29C
367	1954	2500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
368	1984	2000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
369	1984	4000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,E;29-B,C
372A	1954	1000	Steel	1998	1989	1998	Diesel	59	EPS		X	IC	NT	Active	11-C
372B	1954	2500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E
374A	1954	42,000	C	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
374B	1954	5000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
375	1954	10,000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
380A	1954	10,000	Steel	1998	1989	1998	Diesel	56	EPS		X	IC	NT	Active	
380B	1954	600	Steel	1998	1989	1998	Unleaded	56	EPS		X	IC	NT	Active	
386A	1984	1000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;16-C



Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
386B	1982	100	Steel	N/A	N/A	N/A	O/W	38	E			N/A	NT	Active	Exempt
386C	1982	185	Steel	1998	1993	1998	W Oil	38	E	X	X	IC	NT	Active	
388A	1955	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	Closed 1973 1-A,B,C,E
388B	1955	2000	Steel	1998	1989	1998	W Oil	59	E	X	X	IC	NT	Active	13-A,B,E; 16-D; 29-C
388C	1955	100	Steel	N/A	N/A	N/A	O/W	59	E			N/A	NT	Active	Exempt
390A	1955	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
390B	1955	2000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	5-A,B,E; 29-C
392A	1955	2000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
392B	1955	2000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	5-A,B,E; 29-C
392C	UNK	UNK	UNK	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	2-B; 5-A,E; 27-A,D
398	1956	108,000	C	1998	1989	1998	JP-5	32	MAG-11	X	X	IC,ATT	Passed	Active	26-D; 27-A,B,E; 29-C
399	UNK	500	Steel	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	29-A,B,C,E
404	1957	500	Steel	1998	1989	1998	Diesel	52	EPS		X	IC	NT	Active	11-C
405	1956	1242	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-B
406	1956	1424	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-B
435	1959	1000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	20-A,B,D,E 1-A,B,C,E
439A	1959	5000	Steel	1998	1989	1998	Diesel	48	EPS		X	IC	NT	Active	11-A,B,D,E; 29-C
439B	1959	5000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E; 29-C
442	1959	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
443	1959	1000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	21-A-E 1-A,B,C,E
445A	1959	10,000	Steel	N/A	N/A	N/A	UNK	CL	TCO			N/A	NT	Inactive	Closed 1990 4-D; 29-A,B,C,E
445B	1959	10,000	Steel	N/A	N/A	N/A	UNK	CL	TCO			N/A	NT	Inactive	Closed 1990 4-D; 29-A,B,C,E
445C	1959	100	Steel	N/A	N/A	N/A	UNK	CL	TCO			N/A	NT	Inactive	Closed 1990 6-D; 29-A,B,C,E

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
447A	1959	10,000	Steel	1998	1989	1998	JP-5	30	TCO	X	X	IC,ATT	Passed	Active	
447B	1959	10,000	Steel	1998	1989	1998	JP-5	30	TCO	X	X	IC,ATT	Passed	Active	
447C	1959	100	Steel	N/A	N/A	N/A	O/W	47	TCO			N/A	NT	Active	Exempt
449	1959	3000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
450	1959	3000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
451	1959	3000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
452	1959	3000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
453	1959	3000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E
454	1960	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	22-A,B,D,E
455	1960	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E
457	1960	2000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E
461	1960	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1,10-A,B,C,E
462	1960	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;16-F
463	1960	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;16-F
473A	1943	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1,10-B,E;29-A,C
473B	1943	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	Closed 1973
493	1944	1500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E
529	1944	25,000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E
547	1953	567,000	CC	1998	1989	1998	JP-5	35	BFS	X	X	IC	NT	Active	Closed 1987
548	1953	567,000	CC	1998	1989	1998	JP-5	40	BFS	X	X	IC	NT	Active	6-A,B,E;29-C
549	1953	567,000	CC	1998	1989	1998	JP-5	40	BFS	X	X	IC	NT	Active	6-A,B,E;29-C
550	1953	567,000	CC	1998	1989	1998	JP-5	35	BFS	X	X	IC	NT	Active	
551	1953	567,000	CC	1998	1989	1998	JP-5	35	BFS	X	X	IC	NT	Active	

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
553	1956	10,000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	7-A,B,C,E
554	1956	10,000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	8-A,B,E;29-C
574	1955	25,000	CC	1998	1989	1998	JP-5	37	MAG-11	X	X	IC	NT	Active	29-A,B,C,E
575	1955	25,000	CC	1998	1989	1998	JP-5	37	MAG-11	X	X	IC	NT	Active	29-A,B,C,E
576	1955	25,000	CC	1998	1989	1998	JP-5	37	MAG-11	X	X	IC	NT	Active	29-A,B,C,E
577	1955	25,000	CC	1998	1989	1998	JP-5	37	MAG-11	X	X	IC	NT	Active	29-A,B,C,E
579	1957	275	Steel	N/A	N/A	N/A	UNK	CL	EPS			N/A	NT	Inactive	Closed 1974
581	1945	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-C;9-A,B,E 1,10-A,B,C,E
602	1964	UNK	C	N/A	N/A	N/A	UNK	CL	B			N/A	NT	Inactive	6-A,B,E;29-C
605A	1965	1700	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
605B	1965	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
605C	1984	100	Steel	N/A	N/A	N/A	O/W	41	B			N/A	NT	Active	Exempt
606A	1965	17,000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E;23-A,B,D,E
606B	1965	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
606C	1965	100	C	N/A	N/A	N/A	O/W	48	B			N/A	NT	Active	Exempt
610	1966	UNK	UNK	N/A	N/A	N/A	Sand	CL	Heat shop			N/A	NT	Inactive	Closed 1983
625	1967	500	CPS	1998	1990	1998	W Oil	52	B		X	Visual	NT	Active	5-A,B,C,E
626	1967	UNK	C	1998	1990	1998	O/W	52	B			Visual	NT	Active	Exempt
627	UNK	UNK	UNK	UNK	UNK	UNK	UNK	63	B			UNK	NT	Active	O & O by FAA
634	1969	10,000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;29-C
636	1969	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
637-1	1969	12,000	Steel	1998	1990	1998	Leaded	57	ME	X	X	IC,ATT	Passed	Active	
637-2	1969	12,000	Steel	1998	1990	1998	P. Unl	57	ME	X	X	IC,ATT	Passed	Active	



Table 2-9. UST data summary (417 total)

Compliance Dates																
Tank	Install Date	Size (gal)	Tank Type	Corrosion Protection	Release Detection	Total Upgrade	Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments	
637-3	1969	12,000	Steel	1998	1990	1998	P. Uni	57	ME	X	X	IC,ATT	Passed	Active	29-A,B,C,E	
643A	1982	185	CPS	1998	1993	1998	W Oil	45	E		X	IC	NT	Active		
643B	1982	100	C	N/A	N/A	N/A	O/W	45	E			N/A	NT	Active		Exempt
651-1	1971	12,000	Steel	1998	1992	1998	Leaded	54	ME	X	X	IC,ATT	Passed	Active	29-A,B,C,E	
651-2	1971	12,000	Steel	1998	1992	1998	P. Uni	54	ME	X	X	IC,ATT	Passed	Active		
651-3	1971	12,000	Steel	1998	1992	1998	Gas	64	ME	X	X	IC,ATT	NT	Active		
651-4	1971	12,000	Steel	1998	1991	1998	Gas	64	ME	X	X	IC	NT	Active		
651-5	1971	500	Steel	1998	1991	1998	W Oil	54	ME	X	X	IC,ATT	Passed	Active		
651-6	1971	500	Steel	1998	1991	1998	W Oil	54	ME	X	X	IC,ATT	Passed	Active		
651-7	1971	500	Steel	1998	1991	1998	W Oil	54	ME	X	X	IC,ATT	Passed	Active		
651-8	1971	500	C	N/A	N/A	N/A	O/W	56	E			N/A	NT	Active	Exempt	
655	1984	2000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E	
658A	1972	10,000	Steel	1998	1991	1998	JP-5	33	TCO	X	X	IC,ATT	Passed	Active	29-A,B,C,E	
658B	1972	10,000	Steel	1998	1991	1998	JP-5	33	TCO	X	X	IC,ATT	Passed	Active		
658C	1972	100	C	N/A	N/A	N/A	O/W	44	TCO			N/A	NT	Active		Exempt
672	UNK	500	Steel	1998	1989	1998	W JP-5	64	E	X	X	IC	NT	Active	15-B,E; 16-A,C,D	
672A	1982	100	Steel	N/A	N/A	N/A	O/W	42	E			N/A	NT	Active		Exempt
672B	1972	1000	Steel	1998	1991	1998	W Oil	61	E	X	X	IC	NT	Active	1-A,C,E; 29-B	
673A	1982	100	Steel	N/A	N/A	N/A	O/W	40	E			N/A	NT	Active		Exempt
673B	1982	300	Steel	1998	1993	1998	W Oil	55	E	X	X	IC	NT	Active		
674	1982	500	Steel	1998	1993	1998	W Oil	44	E	X	X	IC	NT	Active	1-A,C,E; 29-B	
675	1982	500	Steel	1998	1993	1998	W Oil	44	E	X	X	IC	NT	Active		
693A	1975	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive		

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
693B	1975	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C;29-B,E
706	1984	100	Steel	N/A	N/A	N/A	UNK	CL	E			N/A	NT	Inactive	6-A,B,E;29-C
716A	1976	3000	FG	1998	1992	1998	W Oil	27	E	X	X	IC	NT	Active	14-E; 16-A,B,D;29-C
716B	1976	100	C	N/A	N/A	N/A	O/W	42	E			N/A	NT	Active	Exempt
718	1978	2000	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,E;9-C
730	1978	1000	FG	1998	1992	1998	Diesel	40	EPS		X	UNK	NT	Active	29-A,B,C,E
733A	1980	10,000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,E;29-B,C
733B	1980	10,000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A,B,C,E
733C	1980	10,000	FG	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A,B,C,E
758A	1982	100	Steel	N/A	N/A	N/A	O/W	44	E			N/A	NT	Active	Exempt
758B	1982	185	Steel	1998	1993	1998	W Oil	44	E	X	X	IC	NT	Active	
759A	1982	100	Steel	N/A	N/A	N/A	O/W	44	E			N/A	NT	Active	Exempt
759B	1982	185	Steel	1998	1993	1998	W Oil	44	E	X	X	IC	NT	Active	
760A	1982	185	Steel	1998	1993	1998	W Oil	44	E	X	X	IC	NT	Active	
760B	1982	100	Steel	N/A	N/A	N/A	O/W	44	E			N/A	NT	Active	Exempt
761A	1982	100	Steel	N/A	N/A	N/A	O/W	44	E			N/A	NT	Active	Exempt
761B	1982	185	Steel	1998	1993	1998	W Oil	44	E	X	X	IC	NT	Active	
762A	1982	100	Steel	N/A	N/A	N/A	O/W	44	E			N/A	NT	Active	Exempt
762B	1982	185	Steel	1998	1993	1998	W Oil	44	E	X	X	IC	NT	Active	
763A	1982	100	Steel	N/A	N/A	N/A	O/W	44	E			N/A	NT	Active	Exempt
763B	1982	185	Steel	1998	1993	1998	W Oil	44	E	X	X	IC	NT	Active	
764A	1982	185	Steel	1998	1993	1998	W Oil	49	E	X	X	IC	NT	Active	
764B	1982	100	Steel	N/A	N/A	N/A	O/W	49	E			N/A	NT	Active	Exempt

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Det. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
765A	1982	185	Steel	1998	1993	1998	W Oil	47	E	X	X	IC	NT	Active	
765B	1982	100	Steel	N/A	N/A	N/A	O/W	47	E			N/A	NT	Active	Exempt
766A	1982	100	Steel	N/A	N/A	N/A	O/W	47	B			N/A	NT	Active	
766B	1982	185	Steel	1998	1993	1998	W Oil	47	B	X	X	IC	NT	Active	
797	1985	10,000	Steel	1998	1993	1998	Av. Gas	26	Acro Club	X	X	IC	NT	Active	
800A	1984	10,000	FG	1998	1993	1998	Unleaded	20	VM	X	X	IC,ATT	Passed	Active	
800B	1984	10,000	FG	1998	1993	1998	Diescl	20	VM	X	X	IC,ATT	Passed	Active	
800C	1984	10,000	FG	1998	1993	1998	Diescl	20	VM	X	X	IC,ATT	Passed	Active	
800D	1984	1000	FG	1998	1993	1998	W Oil	20	VM	X	X	IC,ATT	Passed	Active	
800E	1984	1000	FG	1998	1993	1998	W Oil	20	VM	X	X	IC,ATT	Passed	Active	
800F	1984	1500	C	N/A	N/A	N/A	O/W	52	VM			N/A	NT	Active	Exempt
850A	1988	5000	FG	N/A	N/A	N/A	UNK	CL	RT			N/A	NT	Inactive	T Closed 1990
850B	1988	5000	FG	N/A	N/A	N/A	UNK	CL	RT			N/A	NT	Inactive	T Closed 1990
850C	1988	500	FG	N/A	N/A	N/A	UNK	CL	RT			N/A	NT	Inactive	T Closed 1990
5101	1943	500	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,B,C,E
5201	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	24-A-E 1-A,C,E; 2-B; 10-A,B,E
5202	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	24-A-E 1-A,C,E; 2-B; 10-A,B,E
5203	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	24-A-E 1-A,C,E; 2-B; 10-A,B,E
5204	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	24-A-E 1-A,C,E; 2-B; 10-A,B,E
5205	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	24-A-E 1-A,C,E; 2-B; 10-A,B,E
5206	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	24-A-E 1-A,C,E; 2-B; 10-A,B,E
5207	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	24-A-E 1-A,C,E; 2-B; 10-A,B,E
5208	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	24-A-E 1-A,C,E; 2-B; 10-A,B,E



Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates			Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Del. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection	Total Upgrade									
5209	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;24-A-E
5210	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;28-E
5211	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;28-E
5212	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;28-E
5213	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E
5214	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E
5215	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;24-B,C;
5216	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;24-A,D,E
5217	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;24-A-E
5218	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;24-A-E
5219	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;24-A-E
5220	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;24-A-E
5221	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;28-E
5222	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;28-E
5223	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;24-A-E
5224	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;24-A-E
5225	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E;24-A,C,E
5226	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E
5227	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E
5228	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E
5229	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E
5230	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E
5231	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E;2-B;10-A,B,E

Table 2-9. UST data summary (417 total)

Tank	Install Date	Size (gal)	Tank Type	Compliance Dates		Total Upgrade	Contents	Risk Value	Operator	Fed. Reg.	State Reg.	Release Dct. Method	Leak Test Results	Status	Comments
				Corrosion Protection	Release Detection										
5232	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E
5233	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E
5234	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E
5235	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E
5236	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E
5237	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E; 28-E
5238	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E; 28-E
5239	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E
5240	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E; 28-E
5241	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E
5242	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	1-A,C,E; 2-B; 10-A,B,E
5243	1943	300	Steel	N/A	N/A	N/A	UNK	CL	Heat shop			N/A	NT	Inactive	29-A,B,C,D,E
T-1	1988	2000	FCS	1998	1993	1998	Waste	35	E		X	UNK	NT	Active	15-D; 29-A,B,C,E
T-2	1988	2000	FCS	1998	1993	1998	Waste	31	E		X	UNK	NT	Active	15-D; 29-A,B,C,E
T-3	1988	2000	FCS	1998	1993	1998	Waste	33	E		X	UNK	NT	Active	15-D; 29-A,B,C,E
T-4	1988	2000	FCS	1998	1993	1998	Waste	28	E		X	UNK	NT	Active	16-D; 29-A,B,C,E
T-5	1988	2000	FCS	1998	1993	1998	Waste	31	E		X	UNK	NT	Active	15-D; 29-A,B,C,E
T-6	1988	2000	FCS	1998	1993	1998	Waste	28	E		X	UNK	NT	Active	15-D; 29-A,B,C,E
T-7	1988	2000	FCS	1998	1993	1998	Waste	28	E		X	UNK	NT	Active	15-D; 29-A,B,C,E
T-8	1988	2000	FCS	1998	1993	1998	Waste	30	E	X	X	UNK	NT	Active	15-D; 29-A,B,C,E
T-9	1988	1000	FCS	1998	1993	1998	Waste	30	E	X	X	UNK	NT	Active	17-D; 29-A,B,C,E
T-10	1988	1000	FCS	1998	1993	1998	Waste	23	E	X	X	UNK	NT	Active	17-D; 29-A,B,C,E
T-11	1988	1000	FCS	1998	1993	1998	Waste	30	E	X	X	UNK	NT	Active	17-D; 29-A,B,C,E

Table 2-9. UST data summary (417 total)

<u>Compliance Dates</u>															
<u>Tank</u>	<u>Install Date</u>	<u>Size (gal)</u>	<u>Tank Type</u>	<u>Corrosion Protection</u>	<u>Release Detection</u>	<u>Total Upgrade</u>	<u>Contents</u>	<u>Risk Value</u>	<u>Operator</u>	<u>Fed. Reg.</u>	<u>State Reg.</u>	<u>Release Det. Method</u>	<u>Leak Test Results</u>	<u>Status</u>	<u>Comments</u>
T-A	1988	30,000	FCS	1998	1993	1998	JP-5	18	E	X	X	UNK	NT	Active	29-A,B,C,E
T-B	1988	30,000	FCS	1998	1993	1998	JP-5	18	E	X	X	UNK	NT	Active	29-A,B,C,E
T-C	1988	2500	FCS	1998	1993	1998	W JP-5	18	E	X	X	UNK	NT	Active	29-A,B,C,E
<hr/>															
ATT	Annual Tank Test					FCS	Fiberglass Coated Steel					P. Unl.	Premium Unleaded		
Av. Gas	Aviation Gas					FG	Fiberglass					RT	Rescue Training		
BFS	Bulk Fuel Storage					IC	Inventory Control					SS	Spent Solvents		
C	Concrete					MB	Military Exchange					T Closed	Temporarily Closed		
CL	Closed					N/A	Not Applicable					TCO	Test Cell Operations		
E	Environmental					NT	Not Tested					UNK	Unknown		
EPS	Emergency Power Shop					O+O	Owned and Operated					VM	Vehicle Maintenance		
FAA	Federal Aviation Agency					O/W	Oil & Water					W	Waste		
CC	Cylindrical Concrete														

NOTE: For those tanks tested, the Horner EZY-CHEK method was used.



**NOTES FOR UST TABLE**  
**FROM EG & G IDAHO, INC. "USMC MCAS EL TORO, UNDERGROUND**  
**STORAGE TANK PLAN (DRAFT)"**  
**NOVEMBER 1990**

**REPORTS REFERENCED**

- A. Advanced Sciences, Inc. "Oil Spill Prevention, Control Countermeasure Plan and Contingency Plan, Marine Corps Air Station - El Toro." Oak Ridge, TN. May 1990.
- B. El Toro MCAS UST Permit Application to Orange County Health Care Agency. 1986.
- C. EnerSource Engineering. "Underground Tank Survey, Contract N62474-86-C-5005, MCAS El Toro, CA." Fountain Valley, CA. Draft Report. November 15, 1987.
- D. EG & G Idaho, Inc. "USMC MCAS El Toro, Underground Storage Tank Survey Report." Draft Report. August 1990.
- E. El Toro MCAS Environmental Department. Storage Tanks Report 1. 3-12-91.
- F. El Toro MCAS Environmental Department. List of Oil/Water Separators. Received 3-14-91. No Date.

**FOOTNOTES** (Listed under comments column in UST Table)

**Tank Contents**

- 1. Originally #2 Fuel Oil
- 2. Originally #2 Fuel Oil, currently filled with sand.
- 3. Originally AV. Gas
- 4. Originally JP-5
- 5. Originally Regular Motor Vehicle Fuel
- 6. Originally Waste Oil
- 7. Originally Unleaded Gas
- 8. Originally Kerosene
- 9. Originally Diesel Fuel
- 10. Currently Sand
- 11. Currently #2 Fuel Oil
- 12. Currently JP-5

- 13. Currently Motor Vehicle Fuel
- 14. Currently AV Gas
- 15. Currently Waste JP-5
- 16. Currently Waste Oil
- 17. Currently Waste Fuel

Installation Date

- 18. 1944
- 19. 1943

Tank Size (gallons)

- 20. 1242
- 21. 550
- 22. 1500
- 23. 1700
- 24. 500
- 25. 300

Tank Type

- 26. Concrete
- 27. Steel

Other

- 28. Tank removed in 1990.
- 29. Not listed in report.
- 30. Tank number should have "B" suffix.
- 31. Closed 1977.
- 32. Delete "A" suffix.

# Tanks Not Listed In UST Table

<u>Tank</u>	<u>Install Date</u>	<u>Size (gal)</u>	<u>Tank Type</u>	<u>Contents</u>	<u>Status</u>	<u>References</u>
114A	1966	1500	Steel	#2FO	Inactive	A,B,C,D,E
115A	1943	1500	Unk.	#2FO	Inactive	A,B(1966),C,D,E
185A	Unk.	750	Steel	Waste Oil	Active	C
185B	Unk.	750	Steel	Waste Oil	Active	C
304A	1944	500	Steel	#2FO	Inactive	A,B,C,D,E
317	1945	275	Steel	#2FO	Inactive	A,B,E
318	1945	275	Steel	#2FO	Inactive	A,B,C,E
319	1945	275	Steel	#2FO	Inactive	A,B,C,E
446	1959	3000	Steel	Diesel	Inactive	A,B(JP-5),C(#2FO, Conc.),E
448	1959	3000	Steel	JP-5	Inactive	A,B,E
568	1956	500	Steel	Diesel	Active	A,B,C(#2FO),E(1000 gal.)
619	1966	Unk.	Steel	Diesel	Active	B,C(fuel)
662	1973	10,000	FG	#2FO	Inactive	A,B,D,E
671	Unk.	Unk.	Unk.	O/W	Unk.	F
676	Unk.	Unk.	Unk.	O/W	Unk.	F
696	Unk.	Unk.	Unk.	O/W	Unk.	F
724A	Unk.	1000	Steel	Diesel	Active	E
817	Unk.	Unk.	Unk.	O/W	Unk.	F
5102	1943	500	Steel	#2FO	Inactive	A,B,D,E

LAOVELTORORFALS



**Appendix B**

**LIST OF DOCUMENTS OBTAINED FROM  
NEESA and SOUTHWESTDIV**

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## EL TORO DOCUMENT REVIEW

Date	Document Title	Originator	Description	Box
03/26/86	Letter to MCAS El Toro	WESTDIV	Guidance for compliance with new California UST Regs	1
05/01/86	Initial Assessment Study, Marine Corps Air Station El Toro California	Brown and Caldwell	IAS was conducted to identify potential contamination from past hazmat operations. 17 potentially contaminated sites were identified. Concluded that none of the sites pose immediate threat, but 9 warrant further investigation. These 9 sites include Magazine Road Landfill, Explosive Ordnance Disposal Range, Original Landfill, Transformer Storage Area, Perimeter Road Landfill, Communication Station Landfill, Crash Crew Pits #1 and #2 and Battery Acid Disposal Area. Remedial measures recommended for the Ferrocene Spill.	1
03/ 76	Study of Environmental Impact of Jet Engine Testing Operation (Information Handbook) Volume I	U.S. Marine Corps	Information handbook regarding air emissions from Jet Engine Test cells at El Toro. Air Board filed suit due to smoke from the test cells.	1
09/14/79	MCAS El Toro 1978 Variance Historical File	Department of Navy Office of General Counsel	File on information/correspondence with SCAQMD	1
10/03/80	File on Industrial Waste Collection Improvements (1980), El Toro	U.S. Marine Corps	1980 file on water/wastewater service at MCAS Tustin and El Toro Mentions Oil/Water Separators, Crash Crew Training Pit, Spill Control Catch Basins. Correspondence with RWQCB regarding violations/deficiencies in wastewaters discharged to sewer.	1
/ 73	MCAS El Toro	U.S. Marine Corps	Projects include Vapor Recovery Systems, Conversion to Natural Gas, Refueling Vehicle Maintenance Facility, Connection of Sewers to Municipal System. Primarily Fiscal info. given in file.	1
/ 86	6. El Toro (MCAS) 1986	U.S. Marine Corps	File includes correspondence with regulatory agencies regarding air emissions; Hazardous waste permits/plans (e.g., SPCC Plan); Response to EPA comments on IAS for El Toro; Project on Used Solvent Elimination Study; Notice of Violation from DHS regarding UST 22c & 22f having accumulated waste oil in vaults; Groundwater Contamination; Annual Hazardous Waste Inspection Reports.	1
/ 84	6. El Toro (MCAS & MCAS(H)) 1984	U.S. Marine Corps	File includes memos/corresp. on Hazmat Removal Contracts; PCB Study; Storage for Hazardous wastes awaiting disposal; SPCC Plans; Memo on floor drains which mentions chronic problem of oil in drainage ditches at El Toro.	1
/ 86	Oil and Hazardous Substance SPCC Field Survey Report, SPCC Plan, and Contingency Plan for El Toro	NBS/Lowry	Includes info on haz wastes generated, and inventories of active POL and haz substance storage tanks, inactive/abandoned haz substance storage tanks, and potential spill sites other than storage tanks. Also includes a SPCC map indicating the locations of the above.	1
06/02/87	Letter to WESTDIV	MCAS El Toro	Description of construction projects at El Toro. None of the projects seemed hazmat related.	1
02/ 82	Hazardous Waste Management Study, Various Activities in So. Cal	Brown and Caldwell	Describes some of the organization and some of the hazardous waste generation activities onsite. Information is basically out	1



# EL TORO DOCUMENT REVIEW

Date	Document Title	Originator	Description	Box
02/ /82	and Arizona		of date.	
04/ /89	Draft Plan of Action, Tank 398 and Assoc.	Dept. of Navy	Appendices for report. Sampling and Analysis Plan; Health and Safety Plan; Quality Assurance Plan; Leak reported.	1
04/ /89	Piping, El Toro (VOL II)			
04/ /89	Draft Plan of Action, Tank 398 and Assoc.	Dept. of Navy	Appendices for report. Sampling and Analysis Plan; Health and Safety Plan; Quality Assurance Plan; Leak reported.	1
04/ /89	Piping, El Toro (Vol I).			
11/15/87	Underground Tank Survey (DRAFT)	EnerSource Engineering	This study investigates certain USTs at El Toro and evaluates current conditions and future requirements.	1
11/15/87				
Various	Various Memos/Reports bound with rubber band	U.S. Marine Corps	Tank records from OC Health Care Agency; Memos regarding fuel spill (1978, 1979); Survey of Industrial/Oily Waste Discharges to Storm and Sanitary Systems; Hazardous Waste Compliance Assessment	1
04/ /89	Draft Plan of Action, Tank 398 and Assoc.	Dept. of Navy	Tank 398 is part of the only existing hot-pit refueling system at El Toro. The 32 year-old 110,000 gal. tank stores JP-5. A 1988 investigation indicated the soil beneath the tank had HC contamination. This study was conducted to characterize the extent of contamination (Two copies in box 2).	2
04/ /89	Piping, El Toro (VOL I)			
04/ /89				
04/ /89				
09/ /89	Draft Plan of Action, Tank 398 and Assoc.	Dept. of Navy	Appendices for report. Sampling and Analysis Plan; Health and Safety Plan; Quality Assurance Plan.	2
09/ /89	Piping, El Toro (Vol I).		(5 copies in the box)	
B-2	/ /89			
/ /89	Notices of Violation	U.S. Marine Corps	Binder with Notices of Violation for bases in California. Two Notices for El Toro - Letters from El Toro to EPA regarding RCRA violations - storage conditions at the base.	2
/ /89	Marine Corps Activities 1989-			
01/20/89	Test Report, Certification and Technical	NDE Technology, Inc.	Leak/Integrity tests on tank/pipelines at MAG 11. Found that the tank was gaining liquid (1 gph). Small leak was found in the 14" distribution line and 3" vacuum line. 110,000 gal. Storage Day Tank 398 containing JP-5. Document has all tank dimensions.	2
01/20/89	Discussion for Precision Tank Test and 3			
01/20/89	Hydrostatic Pipeline Tests at El Toro.			
01/20/89				
01/20/89				
08/ /85	Initial Assessment Study of Marine Corps Air	Brown and Caldwell	IAS for Tustin - Does not include El Toro 14 disposal spill sites identified; 7 recommended for confirmation studies. Sampling schedule included. Sample plan included/good drawings w/wells. Water contamination events on pg.4-39. Waste generation page 5-1.	2
08/ /85	Station, Tustin, California			
08/ /85				
08/ /85				
09/ /89	Plan of Action, Tank 398 and Associated	R.L. Stollar & Associates	Tank 398 is part of the only existing hot-pit refueling system at El Toro. The 32 year-old 110,000 gal. tank stores JP-5. A 1988 investigation indicated the soil beneath the tank had HC	2
09/ /89	Piping, MCAS Tustin, Ca., Vol. I.			
09/ /89				
01/27/78	Environmental Engineering	Naval Facilities	Summary of conditions found at Marine Corps Base, Twentynine Palms	3
01/27/78	Survey Report	Engineering Command		
03/14/78	Environmental Engineering	Naval Facilities	Summary of conditions found at MCAS Yuma, Arizona	3
03/14/78	Survey Report	Engineering Command		
05/30/78	Environmental Engineering	Naval Facilities	Summary of conditions found at MCAS	3

# EL TORO DOCUMENT REVIEW

Date	Document Title	Originator	Description	Box
05/30/78	Survey Report	Engineering Command	El Toro, California	
10/11/78	Environmental Engineering	Naval Facilities	Summary of conditions found at MCAS Tustin	3
10/11/78	Survey Report	Engineering Command	(Helicopter), Santa Ana, California	
11/01/78	Environmental Engineering	Naval Facilities	Summary of conditions found at the Naval	3
11/01/78	Survey Report	Engineering Command	Construction Battalion Center, Port Hueneme	
01/09/79	Environmental Engineering	Naval Facilities	Summary of conditions found at the Naval Air	3
01/09/79	Survey Report	Engineering Command	Station, Miramar	
09/ /84	Environmental Engineering	Naval Facilities	Summary of conditions found at the Naval	3
09/ /84	Survey Report	Engineering Command	Auxiliary Landing Field, San Clemente Island	
07/ /79	Environmental Engineering	Naval Facilities	Summary of conditions found at the Naval	3
07/ /79	Survey Report	Engineering Command	Weapons Station, Seal Beach.	
11/ /79	Environmental Engineering	Naval Facilities	Summary of conditions found at the Naval	3
11/ /79	Survey Report	Engineering Command	Facilities Engineering Command, San Diego	
06/02/80	Environmental Engineering	Naval Facilities	Summary of conditions found at the Naval	3
06/02/80	Survey Report	Engineering Command	Amphibious Base, Coronado, San Diego, Ca.	
09/10/80	Environmental Engineering	Naval Facilities	Summary of conditions found at the Naval	3
09/10/80	Survey Report	Engineering Command	Auxiliary Landing Field, San Clemente Island	
01/ /79	Environmental Engineering	Naval Facilities	Summary of conditions found at the Naval	3
01/ /79	Survey Report	Engineering Command	Weapons Station, Seal Beach, Corona Annex, Ca.	
03/ /79	Environmental Engineering	Naval Facilities	Summary of conditions found at the Marine	3
03/ /79	Survey Report	Engineering Command	Corps Logistics Base, Barstow, Ca.	
07/12/84	NAPSIS, El Toro, Tustin			3
07/09/84	H.W. Disposal Contracts, MCAS	Naval Facilities	Bidding instructions for two contracts to identify and dispose of	3
07/09/84	El Toro and Tustin	Engineering Command	HW at MCAS El Toro and Tustin.	
11/10/88	Draft General Work Plan	R.L Stollar & Associates,	Procedure for an underground storage tank study.	3
11/10/88	Underground Storage Tank		First phase in bringing UST & MCAS El Toro into compliance with	
11/10/88	Studies Program, MCAS El Toro		Federal, State, and local environmental laws and regulations.	
01/ /68	Engineering Study and	Naval Facilities	Suggested Operating Procedures and minor	3
01/ /68	Recommendations, Sewage	Engineering Command	plant modifications	
01/ /68	Treatment Facility, MCAS			
01/ /68	El Toro			
/ /83	Hazardous Materials/Hazardous	Roy F. Weston, Inc.	HM/HW storage facility engineering	3
/ /83	Waste Engineering Study		analysis and recommendations	
08/26/83	Hazardous Materials/Hazardous	Roy F. Weston, Inc.	HM/HW generator survey and preliminary	3
08/26/83	Waste Engineering Study		hazard analysis	

# EL TORO DOCUMENT REVIEW

Date	Document Title	Originator	Description	Box
02/ /84	Hazardous Materials/Hazardous Waste Engineering Study	Roy F. Weston, Inc.	HM/HW generation survey, hazard analysis and storage facility design recommendations	3
01/ /87	Hazardous Waste Analysis	NBS/Lowry	Outline procedure for identification and handling of unknown HW	3
01/ /87	Plan and Closure Plan for			
01/ /87	Facilities at MCAS El Toro			
05/ /85	Potable Water Quality	HYA Consulting Engineers	Plan to maintain potable water quality and identify measures to prevent backflow	3
05/ /85	Assessment and Backflow			
05/ /85	Prevention Adequacy Study			
04/ /60	Engineering Study	C.F. Hostrup & Associates	Report on adequacy and improvements to the MCAS El Toro	3
04/ /60	Improvements to water system			
/ /86	RCRA Compliance Evaluation	PRC Engineering	Report on RCRA Compliance Evaluation Inspection at MCAS (Helicopter) in Tustin	3
/ /86	Inspection Report			
05/ /87	RCRA Compliance Evaluation	Jacobs Engineering Group	Report on RCRA Compliance Evaluation Inspection at MCAS El Toro	3
05/ /87	Inspection Report			
10/ /84	Operation Plan for Temporary	Brown and Caldwell	Information regarding characteristics of wastes handled at MCAS El Toro and procedure for containment.	3
10/ /84	Hazardous Waste Collection			
10/ /84	Facilities			
12/28/76	Environmental Pollution		Navy pollution control reports	3
12/28/76	Control Reports			
10/ /77	Utility Improvement Program	Naval Facilities Engineering Command	Evaluation of marine corps utilities systems to correct deficiencies.	3
10/ /77	at MCAS El Toro			
09/ /83	Spill control facilities for		Construction project data.	3
09/ /83	pollution abatement			
06/14/83	Weston Work Plan	Contractor	Contractor's work plan for hazardous waste storage at MCAS El Toro	3
06/14/83				
08/ /78	Trip report, Environmental review, 17-21 July.	J.M. Kearns	Oil and HM discharges at MCAS Tustin.	3
12/ /76	Environmental pollution control report.	MCAS El Toro	Vapor emissions at MCAS El Toro.	3
/ /71	Varied testimonies	California Regional Water Quality Control Board	Hearing regarding violation of waste discharge requirements at MCAS El Toro.	3
/ /71-72				
10/ /83	Review comments on HM/HW	Villi Jepsen		3
10/ /83	Engineering Study			
10/ /83	at MCAS El Toro			
11/30/83	Review comments on HM/HW	Jeff Simko	Comprehensive report covering NWS Seal Beach, NAVSHIPYD Long Beach, MCAS Tustin and El Toro HW storage.	3
11/30/83	Engineering Study			
11/30/83	at MCAS El Toro			
11/14/83	USGS Analysis Package	MCAS El Toro		3



# EL TORO DOCUMENT REVIEW

Date	Document Title	Originator	Description	Box
02/14/89	Environmental Engineering Services for Underground Storage Tank Studies for Various Locations in Southern California, Southern Nevada and Arizona	R.L. Stollar & Associates	Progress report	3
01/20/89	Test Report, Certification and Technical Discussion for Precision Tank Test and Three Hydrostatic Pipeline Tests at MCAS El Toro	NDE Technology, Inc.	Discussion of tests and results done to pipelines at MCAS El Toro.	3
04/ /89	Plan of Action Tank 398 and Associated Piping, MCAS El Toro Draft, Volume I	R.L. Stollar & Associates	Underground Storage Tank Study	3
04/ /89	Plan of Action Tank 398 and Associated Piping, MCAS El Toro Draft, Volume II	R.L. Stollar & Associates	Appendices A, B, and C Sampling and analysis, Health and safety, and Quality assurance project plans.	3
10/29/76	MCAS El Toro Electrical Distribution	MCAS El Toro Public Works Department	Electrical plans of the base	3
02/27/73	MCAS El Toro Station Map	MCAS El Toro Planning Branch	Site plan of MCAS El Toro and PCB transformer locations.	3
04/13/73	MCAS Tustin Station Map	MCAS Tustin Planning Branch	Site plan of MCAS Tustin and PCB transformer locations.	3
01/ /88	Hazardous Waste Minimization Initiation Decision Report	Naval Civil Engineering Laboratory, Port Hueneme	Describes state of navy hazardous waste management technology and alternatives	4
11/ /88	RCRA Part B Permit Application for Joint EOD Unit Demolition/Disposal Range	Advanced Sciences, Inc.		4
/ /83	NEESA Records Search - El Toro	Brown and Caldwell	Records search for hazmat. Lists UST waste oil	4
04/ /84	Natural Resources Management Plan for El Toro and Tustin		Lists wildlife found at Tustin and El Toro. Landuse, soil map, and survey summary tables.	4
02/ /85	Records Search Log Forms - El Toro, Tustin, and Twentynine Palms	Brown and Caldwell		4
02/10/72	File on RWQCB regarding wastewater discharges			4
/ /73	1973 File with various Memos		One map included in file detail dump sites at El Toro.	4

# EL TORO DOCUMENT REVIEW

Date	Document Title	Originator	Description	Box
/ /82	El Toro (MCAS & MCAS(H)) 1982	U.S. Marine Corps	File contains memos/communications regarding Industrial Waste Collection improvements, Oil and Hazardous Substance Pollution Contingency Plan, etc.	4
/ /82				
/ /82	Environmental Quality 1982			4
11/ /79	Oil and Hazardous Substance Spill Prevention, SCS Engineers			4
11/ /79	Control, and Countermeasure Field Survey			
11/ /79	Report and SPCC Plan for El Toro			
04/ /85	Initial assessment study, MCAS El Toro	Brown & Caldwell	IAS for El Toro	4
04/ /85	NEESA 13-074		First draft.	
04/ /85	PCB survey and transformer assessment	SW environmental section	MCAS El Toro and Tustin PCB transformer inventory	4
/ /84	Data Printout		Building guides for El Toro, Tustin, Camp Pendleton & Big Bear	4
10/29/80	Photographs	Brown & Caldwell	Prints of drum storage sites and crash crew training area	4
10/29/80			Shows ground stains and spills.	
10/ /84	Operation Plan for Temporary Hazardous	Brown and Caldwell		4
10/ /84	Waste Collection Facilities			
01/ /84	Master Plan - MCAS El Toro		Shows sewer system.	4
01/ /68	Interim Report - Engineering Study and	SOUTHWESTDIV	Suggested operating procedures and minor plant modifications	5
01/ /68	Recommendations Sewage Treatment Facility		for El Toro sewage treatment facility.	
01/ /68	MCAS El Toro			
/ /72	1972 File with various Memos	U.S. Marine Corps	Primarily memos/correspondence concerning RWQCB and wastewater discharges	5
/ /72				
/ /79	El Toro (MCAS & MCAS(H)) 1979	U.S. Marine Corps	File contains memos/communications regarding Industrial Waste Collection improvements, AQMD issues regarding testing cells.	5
/ /79				
/ /65	MCAS El Toro (Santa Ana), 1965-71	U.S. Marine Corps	File contains memos/correspondence with regulatory agencies. RWQCB memo regarding discharges of oil and grease to drainage ditches. (1965 - 1971)	5
/ /65				
/ /65				
10/ /87	Underground Tank Survey - MCAS El Toro		Provides details on USTs (including locations) at El Toro	5
10/ /87	Contract N62474-86-C-5005			
10/ /87	Appendix F Tank Data			
09/ /89	Plan of action - Tank 398 Vol. I	Dept. of the Navy	See description box 2 on tank 398 Plan if action.	5
12/ /88	General Work Plan Underground Storage Tank	SOUTHWESTDIV		5
12/ /88	Studies Program MCAS El Toro			
12/ /88	Contract N62474-86-D-097.6			
/ /74	1974 File	U.S. Marine Corps	Small file with memo from Navy requesting extension on SPCC plan	5
/12/83	Photographs		PCB transformer leaks and locations	5

# EL TORO DOCUMENT REVIEW

Date	Document Title	Originator	Description	Box
			N1 box contained nothing of relevance to the RFA study.	N1
04/ /85	Initial Assessment Study	Brown and Caldwell	Sites posing potential threat	N2
04/ /85	at MCAS El Toro		to human health or to the environment	
04/ /85	First Draft			
/ /85	MCAS El Toro Confirmation	Naval Environmental	Findings of an IAS at MCAS El Toro	N2
/ /85	Study Cost Estimate Summary	Protection Support Group		
08/ /85	Initial Assessment Study	Brown and Caldwell	Sites posing potential threat	N2
08/ /85	at MCAS El Toro		to human health or to the environment	
08/ /85	Preliminary Draft			
05/ /85	Initial Assessment Study			N2
05/ /85	Report for MCAS Tustin			
	NPDES Permit (Order No 85-111)			N2
	Orange County Sanitation District Class I Permit			N2
	Letter from RWQCB to LTJG Rehor		Site inspection plan of action (06/23/89)	N2
	Letter from EPA to MCAS El Toro		Regarding IAS (11/04/86)	N2
	Two pages regarding Wastewater treatment	Unknown		N2
11/10/75	File on jet engine test cell operations	USMC El Toro	Inter correspondence. Comments on reclamation plan, sewage/water	N3
	Raw Data	Brown & Caldwell	Notebook	N3
/ /75	1975 File	U.S. Marine Corps	1975 File with various memos regarding Jet Engine Test Cell emissions and reclaimed water use.	N3
/ /75				
/ /86	1986 File on Underground Storage Tanks	U.S. Marine Corps	1986 File on UST permits to operate 73 underground hazardous substance storage tanks at MCAS El Toro and Tustin.	N3
/ /86				
04/ /84	MCAS El Toro and Tustin PCB Transformer			N3
04/ /84	Risk Assessment			
07/08/85	Development of Cost Estimate		Cost estimates for drilling and sampling of sites identified in the IAS for El Toro.	N3
07/08/85	MCAS El Toro Confirmation Study			
12/17/84	Organization Manual - MCAS El Toro	U.S. Marine Corps	Chains of command	N3
04/ /82	Telephone Directory - MCAS El Toro	U.S. Marine Corps		N3
11/ /84	Airfield Pavement Evaluation Report	Dept. of the Navy	Drill log data - to 10+15 feet, pavement.	N3



Date	Document Title	Originator	Description	Box
11/ /84	MCAS El Toro (El Toro 7-CO)	San Bruno		
02/04/85	Soils Investigation/Recommendations	Irvine Soils Engineering		N3
02/04/85	Proposed Washrack, Taxiway, and Cryogenic Pad			
	Initial assessment study report outline	MCAS El Toro	Cut and pasted hand written notes.	N4
	Initial Assessment Study of MCAS El Toro NEESA 13-074		Preliminary draft.	N4
11/ /85	Initial Assessment Study of MCAS El Toro NEESA 13-074		Final draft.	N4
05/ /86	Initial Assessment Study of MCAS El Toro NEESA 13-074			N4
	Cost Estimates	MCAS El Toro	E.O.D. range, magazine road landfill, original landfill, perimeter road landfill, original crash crew pit, transformer storage area, current crash crew pit.	N4
/ /82	Oil and Hazardous Substance Pollution	MCAS Tustin	Instructions for clean-up of oil spills and hazardous substances to prevent contaminant introduction from MCAS Tustin into navigable waters and their tributaries, underground water, and into the Station sewer systems.	Misc.
/ /82	Contingency Plan for MCAS Tustin			
/ /82				
/ /82	Miscellaneous MCAS Tustin and El Toro			Misc.
/ /82	correspondence			
04/ /84	Natural Resources Management Plan		Background information about the two bases and a guideline for a conservation program.	Misc.
04/ /84	for MCAS El Toro and Tustin			
11/ /85	Final Report to OCWD	William R. Mills	Report on TCE/PCE contamination near MCAS El Toro.	Misc.
11/ /85	TCE investigation near MCAS El Toro.			
05/ /89	Public Health Risk Assessment for the	Med-Tox Associates, Inc.	Evaluation of probability of public health risks from potential exposures to TCE released from a planned groundwater containment project.	Misc.
05/ /89	OCWD/IRWD proposed TCE Containment Program			
05/ /89				
07/25/85	OCWD GC Analysis for Volatile Organics	Nereus Richardson	Organic analysis on wells near MCAS El Toro	Misc.
11/ /89	Installation Restoration Program	James M. Montgomery	An off-station remedial Work Plan addressing the contaminated groundwater for areas in the vicinity of MCAS El Toro.	Misc.
11/ /89	MCAS El Toro.			
11/ /89				
11/29/88	Oil and Hazardous Substance Spill Prevention, NBS/Lowry Control and Countermeasure Field Report, SPCC Plan, and Spill Contingency Plan for MCAS El Toro.		Results of a field investigation and recommendations to correct observed deficiencies and emergency spill procedures.	Misc.

**Attachment 1**

**SUMMARY OF SELECTED REPORTS  
FROM SOUTHWESTDIV BOX #1**

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## **REVIEW OF FILES IN SOUTHWESTDIV BOX #1**

Following is a review of some documents from SOUTHWESTDIV, Box #1:

**FY 1982 Military Construction Project Data (May 21, 1980).**  
**Project title: Industrial Waste Collection and Improvements,**  
**MCAS El Toro. Project number: P-325. Includes drawings of**  
**proposed construction changes and map of sites.**

The purpose of this project was to install oil/water separators and other equipment to reduce oil and detergent discharges to the MCAS El Toro storm drains.

### **Project description:**

- Install fourteen prefabricated concrete oil/water separators with diversion piping to the sanitary sewer system for vehicle and aircraft wash and steam cleaning areas.
- Provide low volume, high pressure, hot water vehicle wash equipment (with reinforced concrete masonry shelters) at ten locations.
- Provide electrical power connections for steam cleaning equipment at nine locations.
- Provide three new concrete vehicle wash pads with drains, and repair eight existing concrete wash pads.
- Install surge tank on tank truck facility drain line to an existing oil/water separator and divert outflow to the sanitary sewer.
- Install a waste solvent storage tank adjacent to Storage Building 359.
- Install electrical, water, sewer, and natural gas supporting utilities required at thirteen locations. Deactivate two substandard aircraft wash racks.

This document provides information on the situation at the time the document was drafted: "Operation of existing vehicle and aircraft wash racks and equipment results in the discharge of waste water containing oils, caustic compounds, and detergents to the Station storm drain system. The storm drain system conveys those wastes directly to San Diego Creek, a navigable water of the United States."

Workload of the 1980 facilities: all vehicle and aircraft wash racks are in constant use for 40 hours per week. Each aircraft

at the Station is washed at least once each month. Vehicles and ground support equipment (GSE) are cleaned as required. Approximately five 5,000-gallon capacity fuel tank trucks are cleaned and flushed each month. The quantity of oily wash water generated per day varies, but can be as great as 100,000 gallons per day, and averages approximately 1,000,000 gallons per month.

High pressure, low volume, hot water type washing equipment will be provided at each wash rack to minimize wastewater generation, chemical usage, energy consumption, and manpower requirements.

The work to be done at each site can be described as follows:

- Site 1 - PW Vehicle Maintenance Shop - Building 298: Repair existing steam cleaning pad and divert drainage from the storm sewer system to the sanitary sewer system via an oil/water separator. Provide an electrical power connection for a portable steam cleaner.
- Site 2 - PW Vehicle Maintenance Shop - Building 386/1589: Same as Site 1.
- Site 3 - PW Vehicle Washing Area - Building 616: Provide a new concrete vehicle wash rack, with a sanitary sewer connection via an oil/water separator. Provide new vehicle wash equipment, with supporting utility services. No steam cleaner electrical connection will be provided at this site.
- Site 4 - Vehicle Maintenance Shop - Building 655: Install an oil/water separator on the existing drainage connection from the wash rack to the sanitary sewer system. Provide new vehicle wash equipment, with supporting utility services.
- Site 5 - Vehicle Maintenance Shop - Building 388: Repair the existing vehicle wash rack, and provide a connection to the sanitary sewer system via an oil/water separator. Provide new vehicle wash equipment, with supporting utility services.
- Site 6 - Storage Building - Building 359: Provide a new 500-gallon capacity buried steel storage tank for waste stoddard solvent. Install piping connection from existing solvent tank drain line to new storage tank.
- Site 7 - Aircraft Hangers - Building 295/296/297: Provide a Type-B aircraft wash rack at the southwest corner of

the existing concrete aircraft parking apron. Modify the existing concrete apron to diver runoff around the new wash rack. Provide a new drainage connection from the wash rack to the sanitary sewer via an oil/water separator. Provide new aircraft washing equipment, with supporting utility services. Remove the existing wash hose connections on the fire hydrants on the east side of Buildings 297 and 295.

- Site 8 - Refueling Vehicle Maintenance Facility - Building 672: Install a new 5,000-gallon capacity surge tank in the existing sewer line connecting the truck rack with the existing oil/water separator. Provide a new connection to the sanitary sewer system from the outlet of the existing oil/water separator.
- Site 9 - Aircraft Hanger - Building 461: Provide a Type-A aircraft wash rack at the existing concrete wash pad northwest of Building 461. Repair cracks in the existing concrete pad to avoid damage to aircraft and further deterioration of the pad. Provide a new drainage connection from the wash rack to the sanitary sewer via an oil/water separator and sump pump. Provide new aircraft washing equipment, with supporting utility services.
- Site 10 - Aircraft Hanger - Building 463: Deactivate the existing substandard aircraft wash rack by removing the asphalt berm from the concrete parking apron and removing the hose connections.
- Site 11 - Vehicle Maintenance Shop - Building 390: Same as site 5.
- Site 12 - Ground Support Vehicle Shop - Building 673: Repair and extend the existing steam cleaning pad. Install an oil/water separator on the existing drainage connection from the pad to the sanitary sewer system. Provide an electrical power connection for the portable steam cleaner.
- Site 13 - Aircraft Hanger - Building 114: Provide a Type-a aircraft wash rack at the existing concrete wash pad southeast of Building 114. Provide a new drainage connection from the wash rack to the sanitary sewer via an oil/water separator and sump pump. Provide new aircraft washing equipment, with supporting utility services.
- Site 14 - Vehicle Maintenance Shop - Building 392: Same as site 5.
- Site 15 - Wells Air Start Compressor System - Building 643:



Divert the existing compressor condensate drain from the open storm drainage channel to the sanitary sewer system via an oil/water separator.

- site 16 - Aircraft Hanger - Building 605: Deactivate existing aircraft wash rack by striping the pavement to forbid aircraft washing in that area. Note that the catch basin serving this wash rack also serves as the area drain for a major portion of the parking apron adjacent to Building 605.
- Site 17 - Vehicle Maintenance Shop - Building 5: Same as Site 5. (Oct 23, 1988 - Correspondence, Site 17 revised to South of hanger 294).
- Site 18 - Vehicle Maintenance Shop - Building 10: Provide a new concrete vehicle wash rack west of Building 10. Drainage from the new pad will be directed to the sanitary sewer system via an oil/water separator. Provide new vehicle wash equipment, with supporting utility services.
- Site 19 - Flying Club - Building 240: Provide a new concrete wash pad for small private-type aircraft. Drainage from the new pad will be directed to the sanitary sewer system via an oil/water separator. Adverse grade conditions prevent draining the new pad to the oil/water separator provided at adjacent Site 18 (Building 10). No aircraft washing equipment will be provided at this site.

**Water flow on base:** Almost without exception, the contaminated wash water streams are discharged to the Station storm drain system. Once in the storm drain system, the wastewater flows to, and along, either of two open drainage channels that flow through the Station. At the downstream end of each drainage channel and adjacent to the Station boundary, a low-flow diversion dam has been constructed. A belt-type oil/water skimmer is located in a sump adjacent to each channel at the diversion dams. A pump in each sump draws oily wastewater past the skimmer, where the free oil is removed. The treated wastewater is then pumped to the sanitary sewer system. The recovered oil is periodically removed by a tank truck.

During periods of wet weather and when the oil skimming system is inoperative, oily wastewater flows over the diversion dams and enters San Diego Creek, a navigable waterway. Oily wastewater is also pumped to the sanitary sewer system during these periods. As the washing activity at the Station increases, the number of uncontrolled wastewater discharges increases. As a result of these increasingly frequent discharges, both the California Regional Water Quality Control Board, Santa Ana Region (operating under a mandate from the Environmental Protection Agency) and the

Irvine Ranch Water District have expressed their concern over the oily waste discharges from the Station.

**Letter on Fuel Spill (April 18, 1978) from Dean Pickering, Environmental Engineer, to Major A. Flores, Planning Branch.**

- (1) April 18, 1978, 11:30 am: A 10,000 gallon JP-5 fuel bladder east of Building 369 ruptured. About 2,700 gallons of fuel was spilled into the bermed area around the fuel bladder. About 1,200 gallons of the fuel went through the drainage line in the berm, across the fuel truck unloading area, across part of the parking lot on the east side of Building 369 and into the storm drain outlet located at the southeast corner of Building 369.
- (2) Mr. Jack Smothers of MVDPW alerted the environmental engineer, the fire department, the crash crew and other public works units of the spill. Relatively fast response was undertaken.
- (3) The fuel farm personnel closed the drainage pipe at the berm as soon as they arrived. The quantity of fuel lost was estimated at about 2,700-4,000 gallons.
- (4) The PW's pump truck will be pumping out the berm and taking the fuel to the west fuel tank in tank farm 5.
- (5) The fire truck washed the fuel on the parking lot into the storm drain.
- (6) Public works pump truck pumped out or used oil blotters to remove the spilled fuel from behind the oil-water separator on Bee Canyon Wash. Some oil remains.
- (7) The spill did enter a tributary to a navigable waterway (San Diego Creek). Message R140922Z APR 78 CMC requires this spill be reported to USCG, NRC, and EPA (local regions) by telephone.
- (8) A sample was taken at the oil/water separator soon after the fuel spill was stopped and clean-up was fully underway.
- (9) It is recommended that all areas subject to oil/fuel/hazardous substance spills be bermed in the immediate future to prevent a reoccurrence of any spill that may evacuate into either the Agua Chino Wash or Bee Canyon Wash.
- (10) It is imperative that a comprehensive spill prevention control and countermeasure plan be rewritten to focus on the new environmental law. All spills can be physically detained, if planned.

- (11) It is imperative that a comprehensive and workable oil spill contingency plan be drawn up for each station to meet the CMC requirement of MCO P11000.8A and prevent any spill from becoming a disaster. Reporting procedures are required to be spelled out. With message of APR 78 in support, any spillage that flows into either storm channel (a tributary to a navigable waterway - San Diego Creek) is reportable.
- (12) The fuel bladders have a lifetime of six years, and they have been in use for over 7 years. Two of these bladders have come unglued in the past month. Excellent odds are that the others will soon follow suit.

Signed Dean Pickering, April 19, 1978.

(P.S.) "It is my understanding that the fuel pump was relatively new. These bladders are intended for tactical use, not permanent/fixed use as they are being used now."

**Letter on Gasoline Seepage (Spill) from Underground Storage Tank, from D.R. Pickering, Environmental Engineer, dated 25 Jan 1978.**

- (1) On November 28, 1977, spills from four relined, underground fuel storage tanks came to the attention of the Environmental Engineer and the Station's Natural Resources and Environmental Affairs Officer. The spillage was in excess of 5,000 gallons over the first 8 or 9 months of last year.
- (2) Personnel from Port Hueneme and Navy (Virginia) came to this Station to inspect the tanks for leakage and recommended corrective measures. These tanks were emptied and a decision is being made to correct the inner liners to the tanks. Public Works Engineering department has been working on this spill problem.
- (3) There are a total of 12 tanks that are or may be involved. The tanks were built of concrete during World War II.
- (4) If spillage flows into Agua Chion Wash or Bee Canyon Wash (both washes are designated navigable waterways), they are reportable.
- (5) The Station's Environmental Engineer should be officially notified as soon as a spill is observed. The Environmental Engineer will provide the technical assistance in determining whether spills do or do not involve navigable waters, and is therefore reportable or not.

Two (2) memos from 1JP.10 to 1JA via 1JG via 1JP, also to



**Planning Branch File, regarding JP-5 spill of 13 Apr 79, dated 16 Apr 79.**

(These two letters have conflicting information on the quantity of JP-5 that was spilled.)

- (L1) At least 1,000 gallons of JP-5 spilled from the TAFDS bladder on 13 Apr 79 and it flowed into Bee Canyon Wash and then off the Station. At least 500 gallons flowed off the Station.

This spill and the notice that it was a reportable spill was made to 1JG who reported to 1JA today 16 Apr 79.

A private company was contracted to pump out the oil that went off the Station (estimated 500 - 600 gallons). The remaining oil was pumped out of Bee Canyon Wash on to the ground as no storage capacity was available at the site.

- (L2) Several thousand gallons of JP-5 spilled out of the TAFDS fuel bladder berm and flowed down to Bee Canyon Wash and off the Station into the Wash through the raceway. JP-5 is in the oil/water separator pool, wash and in the storm drainage from Building 369.

Asphalt in parking lot by Building 369 has been liquified in several large areas. This "oil" spill could have been contained on the station if it had been reported and action taken to recall FM personnel to clean it up. Lack of a \$2,500 oil/gasoline recovery unit (portable) was a factor in letting the fuel get out of hand.

"This is definitely a reportable spill and action has been taken to obtain a workable pump to pump the JP-5 fluid from outside the station. I recommend that the appropriate agency be notified of the spill and the actions being taken to remove the spillage. Recommend a team action be taken now to mitigate any adverse effect of the spill. The cost of clean-up and repair will far exceed the cost of a good workable portable oil/water separator that will recover only the spillage and no water economically."

Memo signed 1JP.10 (Dean)

**Memo from 1JP.10 to 1JG, regarding Oil Spill History - major spills, dated 3/30/79.**

- (1) 18 Apr 78: JP-5 spill from TAFDS near Building 369. Approximately 4,000 gallons are spilled due to failure of a fuel bladder and an open drain line in the berm surrounding the fuel bladders. Fire Department washed the fuel into the storm drain and into Bee Canyon Wash. Fuel, along with

water and debris, was pumped out of the area behind the oil/water separator by PW pump trucks. Spill found flowing by MVDIV personnel driving by Building 369 and observing Fire Department actions.

- (2) 15 Jun 1978: JP-5 fuel spill from refuelers in MWSG-37 area. Estimated 100 gallons was washed into the area behind the oil/water separator at the Agua Chion Wash along with about 30,000 gallons of water and biodegradable detergent. The spillage was due to a high flow rate from the fuel trucks being washed and the very small oil/water separator in the refueler yard. The water flushed the oil (gasoline) through the separator into the Agua Chion Wash. The large quantity of water was received by the separator at the Agua Chion as flood waters and the separator turned itself off. Most of the spillage stayed on the station. Discovered by MVDIV on routine inspection. Spilled the day before.
- (3) 23 Mar 1979: JP-5 spill TAFDS fuel bladder split open and spilled some fuel. In transferring fuel from one bladder to another a valve was inadvertently left open and fuel spilled. Fire Department washed fuel off parking area next to Building 369 into storm drain to Bee Canyon Wash. Oil/water separator filled with sand and is inoperable. Hence some oil was held in the small area of the separator pond and some overflowed the main weir of the separator and flowed off station. At least 10 gallons was found off the Station beyond the railroad tracks. About 40 gallons of the fuel mess was pumped out of the wash and on to the ground next to the wash.
- (4) 30 Mar 1979: In excess of 400 gallons of oil (possibly lubricating oil) spilled in the Bee Canyon Wash. About 300 gallons was recovered by the separator (storage tank overflowing back into the wash, downstream of weir and separator pond). About 100 gallons was pumped out of the pond onto the ground.

Pump truck was out of commission and no waste oil was recovered. If a small portable unit that recovers oil only (jet, diesel, lubricating, gasoline, fuel oil, etc) was obtained these conditions would be mitigated and save about \$.50/gallon as this recovered material could be burned in a boiler for heat.

Spill discovered by MVDiv on routine clean-up of oil/water separator this morning. Inspection of potential spill areas at FM area disclosed our source here (one possibility is the "steam cleaning" area "south" of Building 298 where some lube oil is stored but no indication that a recent spill has occurred or deliberately made). Appears as if spillage came from MWSG 37 area.

Possibly a spill on Thursday with the separator working all night to pick up the 300 gallons plus.

**Letter MCAS El Toro, regarding spill.**

4/21/81, 13:00: TADFS Bladder split a seam. About 2,000 gallons of JP-5 spilled. JP-5 was pumped to two C130 and remainder to fuel trucks. About 5 - 10 gallons spilled out of the berm on to the ground.

**Memo from 1JP.10 to Planning Files via 1JG, regarding Fuel Spill of 25 Apr 79.**

A fuel spill occurred at about midnight of 24 April 79 or early morning 25 apr 79 in the MAG 11 area by Building 115. This spill flowed into the Agua Chinon Wash and into the oil/water separator pond filling it with about 350 gallons of fuel. None of the fuel went past the oil/water separator. Fuel residue saturates or covers the flow area from MAG 11 area to the separator. The FM pump truck is picking up as much of the waste fuel as possible with the limited capability of the pumping system.

**Notice of Oil Spill, from Commanding Officer MCAS El Toro, to United States Coast Guard, dated 3/30/81.**

On 3/27/81, 3:30pm, a 1,000 gallon spill of JP-5 form wing tank, Building 463 occurred. Cause of fuel tank leak unknown. Fire department and Crash Crew used light water to move fuel from under aircraft. Spillage moved from aircraft parking area toward storm drain near Building 463 to the Agua Chinon Wash. Waste fuel did not flow off-station or into the IRWD sanitary lines.

**Spill Report, 10/04/82.**

29 September 82, transformer fell off a transport truck between Buildings 369 and 335. About 50 gallons of PCB contaminated oil spilled. Containment by Fire Department and spill team, immediately. Clean-up by PCB spill team began within the hour and continued until area was free of contaminated material. Material containerized and labeled according to DPDO/EPA requirements for eventual disposal via appropriate methods.

Reason for spill: improper transportation procedures/safeguards. Palletized transformer fell from stake truck as truck completed 90 degree turn at intersection.

**Handwritten report, date 11/7/84.**



11/6/84: Overfilled plane by 500 lbs which then spilled.

2340 hrs: Fuel spill at hanger 461, MAG-13, 30 gallons outside hanger. Stuck shut-off valve.

**Letter from COMCABWEST El Toro to CG MCAS El Toro**

- (1) On 12 Oct 1984, at approximately 0800 hrs, approximately 200 gallons of JP-5 entered the sanitary sewer system and was discovered by the Irvine Ranch Water District at its sewage treatment plant. Spill source unknown.
- (2) A large volume of fuel such as this typically enters the sanitary sewer via a washrack. Each washrack is equipped with an oil/water separator designed to trap small quantities of oil/fuel mixed with water. Oil/water separator is not designed to separate a large, concentrated flow of fuel. If a large volume of fuel is discharged to an already full or nearly full fuel system, the separator physically has no room to accept more. The fuel then bypasses the holding facility allowing the contaminants to enter the sanitary sewer. Liquid level indicators are planned to be installed in an attempt to identify potential bypass situations. If the fuel did not enter the sanitary sewer via a washrack, then the incident is all the more serious as it could be interpreted as intentional or malicious.
- (3) Complete procedures on the proper way to dispose of hazardous materials and wastes are found in the reference and must be complied with.
- (4) It is requested that increased emphasis be placed on eliminating discharges of this type to avoid penalties that could be imposed.

**Memo from Director of Facilities Management Department to Assistant Chief of Staff, regarding Hazardous Waste Spill Clean-up, dated 02/28/82.**

- (1) At about 0745 hours on 28 January 82, Facilities Management was notified of a spill of hazardous waste at the Orange County Landfill. MCAS refuse contractor is Geronimo Services Co.. The hazardous waste had been placed in a 40 cubic yard dumpster that was emptied at the landfill on the contractor's first trip that morning. Orange County Landfill ceased operation in that area, suspended the contractor's ability to dump at the landfill and requested immediate corrective action.
- (2) Upon notification of the incident Lt. Kirkman and Mr. Paul Sherwood visited the site where the contractor had collected the dumpster and the landfill to assess the situation and

take corrective action. The material at the site included acid, etching conditioners and other corrosive or volatile materials. Landfill personnel noted that some of the load was covered during the dumping operation and the true quantity of material was unknown. Without definite knowledge of the quantity or types of material that were present, a clean-up operation would be difficult and hazardous.

- (3) It was decided that MCAS El Toro would take action to resolve the situation in order to reduce public exposure. Military labor was suggested for the clean-up effort, but the dangerous nature of the job precluded the use of any but full-trained personnel. At about 1000 hours the Hazardous Material Spill Containment Team was activated. Lt. Kirkman and LCDR. Hadbavny began a "door-to-door" search of the dumpster service area near Buildings 296, 315, and 316 to determine the actual type and quantity of material that was placed in the dumpster. The only acknowledgement of the dumpster contents came from H&MS 13 personnel, but only for a portion of the material cited.
- (4) By 1530 the team had recovered all of the hazardous material, including contaminated soil, and non-hazardous items that were clearly identifiable as Marine Corps refuse. Orange County landfill personnel were witness to the clean-up operations and were pleased with the quick response and thorough clean-up. Facilities Management is now making arrangements to dispose of this material properly. This is hampered by the fact that the containers are damaged and some of the material must be repackaged to meet disposal criteria.

**Letter from Commanding General to Commanding General, Third Marine Air Wing, regarding Fuel Spills and Discharge of Other Hazardous Wastes, date 27 Jan 84.**

On 24 Jan 84 at 1400 hrs an unreported fuel spill was discovered in the Agua Chionon drainage ditch at MCAS El Toro. The visible spill consisted of 50 gallons of JP-5 and had reached the main catch basin directly south of Marine Way. The full extent of the spill is difficult to determine because of the nature of the storm drain system. The El Toro fire department has no record of a reported major fuel spill that could have entered the storm drain system within the past few days. It was apparent from the direction of flow through the storm drain system that it did not come from MAG-11 or the MWSG-37 area, leaving only the MAG-13 area as the source of this fuel.

**Document from County of Orange Health Care Agency, Underground Storage Tank Monitoring Proposal, not dated.**

This document shows 201 as the total number of tanks located at MCAS El Toro. This document lists the tank number, material stored, tank capacity and selected monitoring method.

**Letter from the EPA, date 4 Feb 81.**

This letter is a revised Hazardous Waste Permit Application for MCAS El Toro.

**Letter from Department of the Navy to the California Regional Water Quality Control Board, regarding Chronology of MCAS El Toro Sewage Disposal Plans, dated 7 Jan 72.**

**September 1967:** Waste discharge requirements established

**April 1968:** MCAS El Toro realized that effluent from time to time may reach Newport Bay, and submits funding requirements to Bureau of Budget for corrective measures.

**May 1968:** Contact IRWD for sewer service.

**August 1968:** Submit 1.1 million dollar project for municipal sewer service.

**May 1969:** Funds authorized for an engineering study by a consulting engineer, Jennings-Halderman-Wood. Study concluded:

- a. Updating of existing treatment plant, construction of an effluent waste irrigation system with holding ponds would not permanently solve the Station's sewage disposal problem since effluent cannot be accommodated during periods of rainfall and excess effluent would reach Newport Bay. More than 100 acres of land planned for military use would be utilized for irrigation fields.
- b. Connection to Orange County Sanitation District would be expensive (\$1.6 million), involve political complications and not be consistent with regional planning.
- c. Connection to IRWD appeared to be the best solution although the IRWD was not at this time able to accept MCAS El Toro discharge.

**July 1969:** Contacted Mr. V.P. Baker, President of Los Alisos Water District, to investigate the



possibility of a joint outfall sewer. This resulted in a joint study with:

Los Alisos Water District  
El Toro Water District  
Santa Ana Mountain County Water District  
Whiting Property  
MCAS El Toro

The study concluded that a joint outfall sewer to Orange County Sanitation District would be beneficial to MCAS El Toro but economically unfeasible for the other Water Districts.

December 1971: Congress authorizes 1.215 million dollars for connection to IRWD of all domestic sewage and divert all dry weather flow from the Bee Canyon Wash and Agua Chino Wash into the sanitary sewer system after adequate treatment.

May 1971: A firm proposal from IRWD was received. The connection fee, however exceeded the originally estimated cost by \$200,000.

August 1971: MCAS El Toro offers to pay the \$200,00 from operation funds over a period of five years, since no additional funding is available in this fiscal year.

November 1971: Amended proposal received from IRWD to accept the additional \$200,00 over five year period.

December 1972: Amended proposal approved by Naval Facilities Engineering Command Headquarters, Washington, and Western Division, Naval Facilities Engineering Command, given authority to finalize contract.

February 1972: Final contract signed and construction can start for connection to IRWD sewer system.

February 1972: Contract awarded for construction facilities for diversion of dry weather flow from drainage ditches into sanitary sewer system.

July 1972: Construction of facilities for diversion of dry weather flow from drainage ditches into sanitary sewer system completed.

Fall 1972: Connection to IRWD of all domestic sewage completed.

## **Oil/Water Separator Locations (no date)**

**This form lists an oil/water separator at:**

south of Hanger 10, Building 766  
adjacent to Building 240  
next to Building 244, Building 765  
north of Building 1589  
south of Building 298  
east of c-pool entrance gate  
near Building 655  
south side of Building 388, Building 760  
east side of Building 392, Building 764  
east of hanger 114, Building 763  
southeast corner of Building 673  
southwest side of hanger 297, has no control switch  
south side of Building 390  
by hanger 461, Building 761

**Final Report, Survey of Industrial/Oily Waste Discharges to Storm and Sanitary Systems, 10 May 1978, Department of the Navy, Western Division.**

**Report is included in Appendix C.**

**El Toro (MCAS & MCAS(H)), Folder.**

**Industrial Waste Collection Improvements (notes on Project Number P-325).**

**The following items were found within this folder:**

- **Note on Unaccompanied Enlisted Personnel Housing states that "all boilers are designated "oil & gas" fired. Therefore, all must have permit to operate from South Coast Air Quality Management District (SCAQMD)."**
- **Letter of "Violation of Waste Water Regulations" (Nov 80). This letter requests an immediate replacement for a septic tank truck, equipment code 3414, to replace an existing item for which a previous letter approved retention and authorized exceeding the one-time repair expenditure limit. This previous letter also stated that these repairs would not meet the water district requirement to effectively protect the sewer line due to undersized storage tank and maximum achievable 10-foot suction head.**
- **Letter of "Violation of Wastewater Regulations" (Nov 80). This letter states that MCAS El Toro was notified of violations to rules and regulations of local water district with 24-hour notice to correct the following:**

- (a) Discharge contains floating and emulsified oil and grease
- (b) Discharge contains JP-5 which is kerosene based
- (c) Unknown compound was in the discharge that burned the skin of water district inspector
- (d) Aircraft/vehicle washracks allow direct precipitation and runoff to enter sewage system.

The letter then states how the base will handle the problem:

- (1) Provided catchbasin with storm drain/sewer interconnection, oil/water separators, and demolition of inadequate government owned sewage treatment plant in accordance with then existing regulations. The 1972 system is essentially unchanged today (1980).
- (2) Short term solution of removing floating POL products is of paramount importance to water district as an explosion hazard exists in 8-mile main sewer line to treatment plant and POL damages secondary treatment process. Treatment plant process is critical to station operation and also provides beneficial use of reclaimed water to golf course at half cost of normal water service.
- (3) Proposed repair of present 1964 vintage suction/pump truck utilized to remove floating POL as existing oil/water separators are ineffective. Further investigation concludes that they will not meet water district requirement to effectively protect sewer line due to undersized storage tank and maximum achievable 10-foot suction head. As the majority of POL recovery sites require suction head nearer to 20 feet and the cost of repair to the existing truck exceeds 50 percent of its current value, procurement of a new pump truck is imperative.
- (4) Due to critical need of uninterrupted sewage service to support all station functions, it is requested that scope be expanded to include rectification of storm drain/sewer interconnection at catchbasins and entire project be expedited. It is also requested procurement of new pump truck be expedited to alleviate present hazardous condition and high cost of utilizing interim contract services or truck rental.

Letter from Commanding General of MCAS El Toro to Commanding Officer, Western Division (Oct 23, 1980). This letter states that the location of Project Number P-325, Site #17



is being revised to south of Hanger 244.

- Project Cost Estimate for Project Number P-387, Spill Control Facilities for Pollution Abatement (MCAS El Toro, 29 July 1980).

This project is to reduce the potential of oil or other hazardous substances from entering the storm sewer system. The discharges are to be diverted into the sanitary sewer system, disposed of in approved sanitary landfill sites, or recovered for reuse.

Description of proposed construction:

Construct oil and hazardous substances pollution control facilities:

- (1) oil/water separators,
- (2) fuel tank liquid level indicators and alarm systems,
- (3) berm and centralized storage pens,
- (4) a permanent concrete crash crew training pit.

This construction is necessary to meet CRWQCB rules and regulations on waste water.

- Project Cost Estimate for Project Number P-383, Pollution Abatement- Crash Crew Training Pit (MCAS El Toro, 29 July 1980).

This project is to construct a crash crew training facility with smoke abatement devices. At present (1980), the crash crew is utilizing an unlined earth depression as a training pit. There are no provisions for automatic recovery of contaminated fuel and water, which is environmentally unacceptable because much of the contaminated water drains off-station. Also, the pit cannot be utilized as often as it should be because of environmental problems caused by oil contamination and excess smoke.

This Station has two fire fighting sections which require daily training in a Crash Crew facility.

- Letter from California Regional Water Quality Control Board, Santa Ana Region, date July 16, 1980. Addressed to Lt. K.K. Ball of MCAS El Toro.

This letter was prepared to confirm discussions between the Board staff, Lt. Ball, and Capt. Fargotstein regarding the NPDES permits for Bee Canyon and Agua Chion washes waste discharges at MCAS El Toro.

This letter also addresses certain observations during a site visit:

### Bee Canyon Wash

- (1) The Bee Canyon diversion facility oil removal apparatus was inoperative.
- (2) Excessive oil was accumulated around the oil tank cover.
- (3) A temporary submersible pump was being utilized but it was incapable of keeping up with the channel flow.
- (4) Stop logs which could have retained the water from going over the weir were missing.
- (5) Surface drainage had severely eroded the channel near the diversion facility.
- (6) A spoils pile was located adjacent to the channel readily available to be eroded and carried into the channel.

### Agua Chino Wash

- (1) The Agua Chino diversion facility oil removal device was operating but was ineffective. Part of the ineffectiveness was because the oil drain pipes were clogged with sediment.
- (2) Although the wastewater in the channel was drawn down at the time of the inspection, it was evident that recent overflows had occurred.
- (3) Silt which had been removed from the channel was deposited almost on the channel edge and could potentially fall back into the channel.

• Unclassified Navy memo from Washington, DC, to MCAS El Toro, date March 1980.

Item 2 states "standard industry practice is to dispose of processing chemistry diluted with wash water into municipal sewer systems. Since large quantities of water are used in the photographic process, dilution normally results in chemical concentrations low enough to meet local sewer codes.

Item 3 states "there exists industrial equipment for on site use that is capable of some degree of effluent pollution control. This equipment is large, complex, requires special skills to operate and is expensive to acquire, maintain and own. It is in no way compatible with the mobile facility concept."

Item 4 states "untreated photographic processing wastes should not be disposed of in storm sewers, streams, or septic tanks. If municipal sewer systems are not available, alternatives include packaged on site treatment plants or use of holding tanks and chemical disposal services (commercial or public works) to transfer waste to a municipal system."

- Letter from MCAS El Toro to the California Regional Water Quality Control Board, dated May 23, 1979.

This letter states that the Station applied for two EPA NPDES permits for MCAS El Toro and MCAS Tustin.

Attached to the letter is the actual NPDES application.

- Letter from the California Regional Water Quality Control Board to MCAS, dated September 25, 1979.

This letter acknowledges receipt of the NPDES application and filing fee. "The application cannot be considered complete until it has been reviewed by the EPA."

- Letter from the California Regional Water Quality Control Board to MCAS, dated February 11, 1980.

This letter states that "the oil and grease removal facilities at both discharge points at El Toro Station were noted to be inoperative in the automatic mode. There was a significant amount of oil and grease noted in the water in the storm channel within the Station property. There was only 4 to 6 inches of freeboard before the discharges would be leaving the Station property."

This letter also states that the proposed NPDES permit will contain an average suspended solids limit of 75 mg/l and a limitation of no visible oil and grease for both discharges.

Item 2 of this letter requests that MCAS El Toro sample the effluent from each discharge point at each Station and analyze for suspended solids, oil & grease, filtrable residue, total hardness, sodium, chloride, sulfate, fluoride, boron, arsenic, barium, cadmium, chromium, cobalt, copper, cyanide, iron, lead, manganese, mercury, selenium, silver, zinc, phenolic compounds, PCB, MBAS, and TCE.

- Letter from MCAS El Toro to California Regional Water Quality Control Board, Santa Ana Region, date March 10, 1980.

This letter is in response to the request for analysis letter dated Feb 11, 1980. Attached to the letter is an



Associated Laboratories analytical report (02/14/80) of effluent samples at Bee Canyon Wash, A/C washrack, Agua Chinon Wash, Borrego north, and north side by chicken farm.

**MCAS El Toro (MCON Projects - Inventories), folder**

The following documents can be found within this folder:

- Inventory of Air Pollution Sources, dated February 21, 1967.

This document lists the location, facility identity, type of operation, nature of material, and capacity of the facility.

- Blueprints of MCAS El Toro, Refueling Vehicle, Maintenance Facility, 12/01/65.

These prints are basically construction drawings for the facility.

- Program Cost Estimate for Vapor Recovery Systems, Project Number P-262, FY 1975 MCON, MCAS El Toro.

This document provides maps of Tank Farms 4,5,6, and Base Service Stations. The map locates storage tanks and lists tank capacity.

- Program Cost Estimate for Conversion to Natural Gas, Project Number P-040, FY 1974 MCON, MCAS El Toro.

This document provides construction drawings, cost estimates and notes as a reference for the construction of this project.

- Program Cost Estimate for Refueling Vehicle Maintenance Facility, Project Number P-125, FY 1973 MCON, MCAS El Toro.

This document provides construction drawings, cost estimates and notes as a reference for the construction of this project.

- Facility Study Notes for the Connection of Sewers to Municipal System, FY 1971.

This document states that "the existing Station sewage treatment plant facility has been cited by the cognizant State water quality control board for discharging an inferior quality effluent. The anticipated increase in quantity of flow due to planned station expansion will cause this effluent to reach the waters of Newport Bay, a non-degradable body of water. This will constitute a direct violation of State standards and Federal Water Pollution

Control Administration policy."

Also, "this line item will provide for 7000 feet of 30 inch vitrified clay pipe sewer to connect with the proposed expansion of the Irvine Ranch Water District sewerage system which is approved by the Santa Ana River WQCB".

As of the writing of the document, the "Station discharges untreated industrial wastes through open ditches to private property beyond the Station boundary which is contrary to Federal, State, and local law. Therefore, collateral to this line item will be the construction necessary to divert this industrial waste to the sanitary sewers."

Description of work to be done:

- (1) Construction of sanitary sewage outfall sewer including right-of-way acquisition and physical connection to municipal system.
- (2) Demolition of existing wastewater treatment facility.
- (3) Construction of industrial waste diversion system.
- (4) Connection to new golf course irrigation supply.

• Military Construction Line Item Data, FY 1973, Conversion to Natural Gas, dated 5 November 1970.

This document calls for "conversion of the existing appliances and heating units in" 69 units of housing, 73 boilers now burning #2 fuel oil, 52 oil-fire furnaces, 30 oil-fired water heaters, 122 oil-fire furnaces/heating units, and 20 oil-fired water heaters.

• Program Cost Estimate, Connection of Sewers to Municipal System, Project Number P-182, FY 1971 MCON, MCAS El Toro, dated 15 August 1969.

This document provides maps with the location of sewers to the Municipal system. Maps also show location of sewage treatment plant.

This document states that "the existing Station sewage treatment plant facility has been cited by the cognizant State water quality control board for discharging an inferior quality effluent. The anticipated increase in quantity of flow due to planned station expansion will cause this effluent to reach the waters of Newport Bay, a non-degradable body of water. This will constitute a direct violation of State standards and Federal Water Pollution Control Administration policy."

Description of work to be done:

- (1) Construct facilities to divert sewage flow to outfall

line.

- (2) Connect outfall line to Irvine Ranch Water District Sewer System.
- (3) Demolish sewage treatment plant (structures 483 through 492, 495, 497 and 500)
- (4) Construct oil/water separators, piping and pumps to divert industrial wastes to sanitary sewer system.
- (5) Connect golf course irrigation system to station water system.

This document lists the discharge limits for sodium, sulfate, chloride, fluoride, boron, total hardness, and ether soluble materials.



## **Appendix C**

### **KEY HISTORICAL DOCUMENTS**

- JMM Report, 1945**
- Survey of Industrial/Oily Waste Discharges  
to Storm and Sanitary Sewers, 1978**

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REPORT ON  
DISPOSAL OF INDUSTRIAL WASTES  
MARINE AIR STATION  
EL TORO, CALIFORNIA

for

ELEVENTH NAVAL DISTRICT  
SAN DIEGO, CALIFORNIA

August 1945

JAMES M. MONTGOMERY  
CONSULTING ENGINEER  
~~306 West Third Street~~  
~~Los Angeles, California~~

117 E. Colorado Street  
Pasadena 1, Calif.



DISPOSAL OF INDUSTRIAL WASTES  
MARINE CORPS AIR STATION  
EL TORO, CALIFORNIA

GENERAL

The operations to be carried on by Air Base Group Two at the El Toro Marine Corps Air Station will produce a waste which will be a menace unless disposed of properly. The pollution is of such a nature that ordinary treatment and disposal methods for sewage are not applicable and extraordinary precaution must be taken in both the design and operation of disposal facilities.

POLLUTION

Under the direction of the Commanding Officer of Air Base Group Two, Colonel Valentine Gephart, a comprehensive study has been made of the quantity and quality of the wastes which will be produced. The complete information compiled in this study is reproduced in APPENDIX A.

The data furnished by Colonel Gephart indicate that at full operation the flow of waste water may reach peaks of 300 gallons per minute, and that the total flow in an 8-hour day shift will probably be about 100,000 gallons. The night flow will presumably be much lower.

The pollution in this waste water will consist of chromic acid, sodium cyanide, sodium silicate, phosphates, cadmium and zinc salts, soaps, cresol, oils and greases, acids, pigments, small amounts of arsenic and hydrofluoric acid, and miscellaneous other substances. Except when vats are being emptied, the pollution will come largely from the washing of

engines and parts and from the drag-out from treating vats. It is expected that the chromic acid content will average about 30 p.p.m. as  $\text{CrO}_3$ , and that the cyanide content will average about 30 p.p.m. as  $\text{NaCN}$ . At times the waste may be acid from the discharge of hydrochloric, nitric, and sulfuric acids, and at other times it may be alkaline. In addition to these "normal" wastes there will be occasional discharges of the contents of various treating vats, containing relatively strong chemical solutions. The combined volume of the vats is about 11,000 gallons.

#### ATTITUDE OF HEALTH OFFICIALS

The disposal problem has been discussed with Mr. Harmon of the California State Board of Health and there is no possibility that that body would permit the discharge of this waste into San Diego Creek. Water of this character may pass through the soil without having its poisonous character materially changed and it could easily pollute some of the many wells between El Toro and Newport Bay.

Aside from possible pollution of wells, there is a chance that livestock having access to the creek might drink the water and be poisoned by it. One instance of the destruction of livestock in California by the drinking of waste water from an airplane cleaning plant has already occurred.

The possibility of direct discharge into Newport Bay was also discussed with Mr. Harmon, and we have been informed that this also would be banned. The California State Fish and

Game Commission undoubtedly would also oppose any such method of disposal.

#### POISONOUS CHARACTER OF WASTES

Chromate is a very poisonous substance. Drinking water standards prepared by the U. S. Public Health Service for the Treasury Department specify that an approved water shall not contain any chromate (which, practically, means less than can be detected by ordinary chemical means, or about 0.01 p.p.m.), and state that the concentration of phenolic compounds (including cresols) preferably should not exceed 0.001 p.p.m., or one pound in 120,000,000 gallons. When the industrial waste water is diluted with the sewage flow from the Base the average chromate content would be about 2.5 p.p.m. Even when allowance is made for dilution with the normal ground water, it is evident that chromate might easily reach wells in objectionable amounts, and there is also a possibility of appreciable amounts of cyanides and phenolic compounds getting through.

#### POSSIBLE MEANS OF DISPOSAL

There are some land areas near the upper end of Newport Bay where the water could be spread on the ground with fair assurance that it would not pollute wells. But the ground water is very high in this area, and is constantly being drained away by drainage ditches. Any water spread on the surface in this area would be added to the normal drainage, so that the effect after a few weeks or months would simply be an indirect discharge into the Bay. When observed on July 10, the flow of water from the drainage ditches into the Bay was estimated



to be 300 - 400 g.p.m., so it is evident that no substantial dilution is available.

Two other methods of disposal offer practical solutions of the problem and are discussed in detail in the following sections.

#### PLAN I

The first method is to neutralize the acidity, remove any easily settleable sludge and any oil which will float, and then deliver the water through a pipe line to the Santa Ana sewer.

The treatment plant would consist of the following units:

1. A collecting sump with float controlled pumps for lifting the waste water into the blending tank.  
In order to maintain a continuous flow through the plant the pump discharge should be controlled as shown in Sketch D.
2. A 50,000 gallon mixing and blending tank of wood or concrete protected from acid attack by a suitable lining and a compressed air line to the center to provide stirring. This tank will serve to even out erratic changes of composition in the waste water.
3. A lime feeder, manually controlled, to add lime when required for acid neutralization.
4. A 1,000 gallon mixing tank, stirred with compressed air, to provide opportunity for the lime to dissolve and to react with the acids.

5. A circular clarifier 20 feet in diameter, equipped with mechanical sludge scraper and oil skimming arrangements.
6. A 2,000 gallon concrete sludge collecting tank, with arrangements to draw off clear water to a sump, and with a pump to transfer the sludge to drying beds.
7. A 1,000 gallon wood or concrete oil collecting tank, with arrangements to draw off clear water to a sump, and with a pump to transfer the oil to a truck or an oil sump where it could be burned.
8. A 2,000 gallon sump to collect water removed from the sludge and oil collecting tanks, and piping to carry the water back to the collecting sump.
9. Eight sludge drying beds, each 20 x 50 ft.
10. A three horse power motor-compressor installation to provide compressed air to stir the mixing tank.
11. Piping, valves and other miscellaneous appurtenances.

The waste water line would comprise:

- (1) 20,000 lin. ft. of 10" V.C. pipe line
- (2) 14,000 lin. ft. of 12" V.C. pipe line
- (3) 8,000 lin. ft. of 10" C.I. force main
- (4) A pump station, including a wet well approximately 15 ft. in diameter by 12 ft. deep, and three float-operated pumps.

Operation would require roughly one-half of the time of one man. Since it is expected that the water would be alkaline much of the time, the lime requirement would be very small, and might advantageously be made up at least in part by lime sludge from the water softening plant. The cost of power to operate the treatment plant and pump station would total about \$2.00 per day.

The waste water, after passing through the treatment plant, would not be detrimental to the Santa Ana sewers nor to the Orange County joint outfall and sewage treatment plant, nor would it be the cause of any objection at the point of final disposal in the ocean. Actually it would be beneficial in the sewers by reducing existing sulfide conditions. On the basis of our experiences with industrial waste problems in the Los Angeles County Sanitation Districts, we can assure the local authorities on these points. Conversations with Mr. Neighbour, City Engineer of Santa Ana, have indicated that the City will be willing and able to take this waste water. The charge for handling it will be about \$50 per million gallons or \$5 to \$10 per day on the basis of the anticipated flow.

The waste water line is shown on Sketch "A". It would consist of a gravity flow section terminating at a pump station located on the grounds of the Santa Ana Naval Lighter Than Air Station and a force main from the pump station to the Santa Ana sewer system at the intersection of Newport Avenue and Delhi Road.

Conversations with Lt. Commander Kelly, Public Works Officer at the Santa Ana Naval Lighter Than Air Station,



disclosed that the Station now disposes of sanitary sewage through a pump lift and an 8" force main to the Santa Ana sewer system. That portion of the original 8" V.C. pipe force main between the pump station and the intersection of Red Hill Avenue and Delhi Road, a distance of 2600 ft., has been replaced with cast iron due to pipe failures. Public Works Officers at the Station expressed the advisability of replacing the remaining portion of the existing 8" V.C. force main from Red Hill Avenue to Newport Avenue with cast iron due to anticipated failures. The 2,615 lin. ft. in the portion of the new line between Red Hill Avenue and Newport Avenue could be used jointly by the Marine Base and the Air Station.

#### PLAN II

The last alternative is to purify the water sufficiently so that it can be discharged into San Diego Creek along with the sewage effluent. The major purification problem will be chromate removal. This can be accomplished by chemical reduction in acid solution with sulfide, followed by addition of lime to raise the pH to a value between 7 and 8, thus precipitating chromic hydroxide. In the course of these operations cadmium, zinc, copper, iron, and aluminum will also be largely or completely removed, and cyanides will be considerably reduced.

Researches reported by Hoover and Masselli in Ind. Eng. Chem. 33, 131 (1941), and the subsequent experiences of the Electrolux Co., have indicated that barium sulfide was most suitable for treatment of the waste from the chromium electroplating works at Old Greenwich, Conn. But the wastes treated

there had a much higher chromium content than the wastes considered in this report. A more dilute solution would argue in favor of sodium sulfide, and it is considered that this would be the chemical to use at El Toro.

After acidifying, treating with sodium sulfide, mixing and settling, the water still would contain cresols, cyanides, emulsifying agents, and other components of lesser importance, and it would also carry some sulfide due to a slight excess which would be required for reducing the chromate. Further purification of the water would be accomplished by adding it to the sewage entering the sewage treatment plant. In passing through the trickling filters the sulfides would be completely destroyed, cresols, organic acids and other organic materials would be largely or completely removed and cyanides probably would be reduced somewhat in concentration.

As far as is known at present the waste water leaving the primary treatment process would not contain any constituents which would harm the operation of the trickling filter. If chlorinated hydrocarbons should be used in the airplane cleaning operations, and if they should be present in excess of 1 p.p.m. in the combined sewage and waste water flow, then the biological purification process would suffer. But even if chlorinated hydrocarbons are used, it is probable that the primary purification operation will reduce the concentration to a level which would be harmless. If difficulty should develop on this account it would be necessary to take steps to exclude excessive amounts of chlorinated hydrocarbons from the waste water.

If copper salts should be used, they might not be entirely precipitated in the primary treatment, but might be carried as colloidal copper sulfide to the trickling filters, where oxidation would produce copper compounds sufficiently active to damage the biological process. Difficulties on this account are quite unlikely and would not be insurmountable.

In the total effluent from the Base the chromates and all other metallic elements would be absent or present in insignificant amounts. Arsenic probably would be partly removed in the treatment operations, and in any case would be reduced by dilution to a concentration well below 0.1 p.p.m. Fluorides should not average more than 0.3 p.p.m. -- an amount which would not be objectionable. Cyanides, which would be progressively reduced in amount by the primary treatment, the trickling filters, and the final chlorination of the effluent, would be present in the discharged water only in negligible concentration of a few tenths of a part per million. Silicates and phosphates would be harmless in reasonable concentrations. The total salt content of the effluent would be somewhat higher than the water supply, but not high enough to hinder its use for irrigation.

The primary treatment plant would require the following units:

1. An acid-proof sump of 1,000 gallons capacity and two acid-proof pumps to lift the water into the treatment plant.



2. Two tanks, of wood or of concrete protected against acid by a suitable coating, each of 100,000 gallons capacity (one day's flow), with provisions for air stirring, oil skimming, and removal of water after settling by decantation. (These tanks would be operated alternately in a batch wise manner) Sludge blow-off lines would be required in the tank bottoms.
3. Measuring hoppers and scales to provide for the batchwise addition of two dry chemicals, and acid proof measuring tanks to provide for the batchwise addition of two chemical solutions.
4. A concrete sludge collecting tank of 8,000 gallons capacity, with arrangements to draw off clear water to a sump, and with a blow-off line to run the sludge to a sludge drying bed.
5. A 1,000 gallon concrete oil collecting tank with arrangements to draw off clear water to a sump, and with a pump to transfer the oil to a truck, or a run-off line to flow the oil to a sump where it could be burned.
6. A 4,000 gallon concrete sump to collect water removed from the sludge and oil collecting tanks, and piping to carry this water back to the influent pump lift.
7. A five horse-power motor-compressor installation to provide compressed air for stirring the tanks.

8. Eight sludge drying beds, each with an area of 5,000 square feet.
9. Piping, valves, stairways, platforms, testing equipment with appropriate housing, and other appurtenances.

Operation would require the attention of a full-time operator. Chemical costs would probably be between \$5 and \$10 per day, on the basis of the available information regarding the waste material. The power cost would be about \$2 per day.

#### ESTIMATES OF COST

Estimates of cost of the facilities required for the two means of disposal as described under PLAN I and PLAN II are tabulated in APPENDIX B and APPENDIX C.

#### CONCLUSIONS

1. Either PLAN I or PLAN II will give satisfactory results with waste water of the character reported by Colonel Gephart and as shown in APPENDIX A.

2. PLAN I will give satisfactory results with practically any type of waste water which may be produced now or in the future even if new and presently unknown materials should be used in the cleaning and plating operations. Also operational errors will cause no serious trouble.

3. If new and presently unknown materials should be used in the cleaning and plating operations it may be that PLAN II would give unsatisfactory results and modifications would have to be made in the process. If such change in

materials should be made without due notice to the plant operator, or without provision being made for modified treatment, pollution of ground water or other damage might take place and result in claims against the government. Operation errors could also result in pollution or damage.

4. The estimated cost of facilities required for PLAN I is high (\$129,800.00) but satisfactory results are certain.

5. The estimated cost of facilities required for PLAN II is low (\$29,650.00) but unprepared for process changes or operational errors could result in water pollution or other damage.

6. It is understood that the El Toro Marine Air Station is to be a permanent base and that the operations which produce the waste will continue after the termination of the war. With this in mind it is recommended that PLAN I be followed in order to provide a permanent and certain solution to the waste problem.



## APPENDIX A

Information regarding wastes compiled by direction  
of Colonel Gephart, Commanding Officer,  
Air Base Group 2

### HANGER #2

#### Propeller Shop

Rinses 3 gal/min  
Contain 20-50 lb  $\text{CrO}_3$  per week

Anodize tank - 500 gal - 1000 lbs  $\text{CrO}_3$   
Dumping unpredictable

#### Paint Shop

Water - 400 gal containing 40 lb of pigment dumped  
Twice a week.

#### Dope Shop

Water - 900 gal containing 90 lb of pigment dumped.  
Twice a week.

HANGER #3

Plating and Cleaning Shop

Degreasers (pure water)	20 gal/min
Rinses Contaminations:	20 gal/min

100 lb of NaCN	)	
25 lb of CdO	)	
100 lb of CrO <sub>3</sub>	)	Per week
100 lb of Na <sub>2</sub> S:O <sub>3</sub>	)	
10 lb of ZnO	)	
20 lb of H <sub>2</sub> SO <sub>4</sub>	)	

Acid Pickles

400 gal of Spent HcL (used full strength)  
400 gal of Spent HNO<sub>3</sub> - H<sub>2</sub>SO<sub>4</sub> (1:2)

Dumped at 1-4 gal/min

Alkali Cleaner

3000 gal dumped at 100 gal/min  
Contains about 1500 lb of Na<sub>2</sub>S:O<sub>3</sub>

Anodize Tank - 3000 gal

Containing about 5700 lb of CrO<sub>3</sub>  
Dumping unpredictable

Water conditioners (De-ionizers)

600 gal per day capacity units  
See data on steam plant and calculate  
chemicals and rinses required for  
this installation.

HANGER #3

Emulsion Cleaner

2000 gal dumped at 50 gal/min contains wetting agents -  
Phosphates - a solvent and water.

Stoddard Solvent

600 gal dumped in 30-60 min. would contain dissolved  
oils and greases.

Steam Guns

35 gal/min

Would contain  $\text{Na}_2\text{S}_1\text{O}_3$  - Emulsifiers - Carbitol and Water -  
Total of about 40 pounds of powdered cleaning material per  
day.

Heat Treat Shop

Furnace, Quench Tanks, etc.  
(Continuously)

3 gal/min

Metals Shop

2 Spot welders

10 gal/min

Tank Shop

Surge Cleaner Trinses

2 gal/min

Hydraulic Shop

Cooling water

3 gal/min



## ENGINEERING OVERHAUL

5 Degreasers (Pure Water)	35 Gal/min
Rinse Tanks (Contaminated)	20 Gal/min

50 lb of NaCN	
20 lb of CrO <sub>3</sub>	
1 lb of As <sub>2</sub> O <sub>3</sub> (Pure Guess)	- per week
5-15 lb of H <sub>2</sub> F <sub>2</sub>	

### Test Cells

Codling Water	60 Gal/min
Oil	25 Gal/Day
Solvents	50 Gal/Day
Various Greases	25 Lb/Day

These are full loads and may be slightly high but it appears that 75% of the values quoted above is the minimum to be expected.

Processes used include	200 Gal.
Hydrofluoric Acid Pickle (10%)	
Cadmium Cyanide Plating Bath	300 Gal.
Boonderizing	50 Gal.
Chrome Pickle (For Magnesium)	200 Gal.
Bullard Dunn Descaling	50 Gal.
Electro Clean Tank (8 oz/Gal TSP)	250 Gal.
Frequency of Dumping is unpredictable.	

STEAM PLANT

Permutite Water Deionizer

Capacity of 24,000 Gal. per 24 hours

Regeneration required: (Cation Replacement)

75 Gal. of Rinse/Min. for 10 Min.

71 Gal. of Rinse/Min. for 35 Min. -- 12,000 Gal.

124 lb of Sulfuric Acid 66° BE

Regeneration requires: (Anion Replacement)

95 Gal. of Rinse/Min. for 10 Min.

36 Gal. of Rinse/Min. for 35 Min. -- 71,000 Gal.

179 Lb. of Sodium Chloride

Assume a maximum consumption of 24,000 Gal./Day

Graphic Arts Building

Print Washers

10 gal/min.

APPENDIX B

ESTIMATE OF COST

**PLAN I - (Water treated and delivered to Santa Ana Sewer)**

1.	Acid proof sump - waste influent	= \$	1,000.00
2.	2 Sump pumps - all bronze	=	1,800.00
3.	50,000 wood tank	=	3,000.00
	Wood tank foundation	=	1,000.00
4.	Lime feeder	=	1,200.00
5.	Air Compressor	=	800.00
6.	1,000 gal. mixing tank (wood)	=	150.00
	Mixing tank foundation	=	200.00
7.	20' Diam. Clarifier tank (concrete)	=	1,500.00
	Clarifier mech. equipment	=	2,200.00
	Sludge pump	=	700.00
	Electrical work	=	600.00
	Lime storage building, walkways, stairs and other carpenter and mill work	=	2,000.00
	1,000 Gal. oil collecting tank (wood)	=	150.00
	Oil collecting foundation	=	100.00
	2,000 Gal. Sludge collecting tank (wood)	=	300.00
	Sludge collecting foundation	=	200.00
	2,000 Gal. Sump (concrete)	=	400.00
	8 Sludge Beds 20' x 50'	=	1,000.00
	Piping, Valves etc	=	2,500.00
	20,000 lin. ft. 10" V.C. pipe	=	37,000.00
	14,000 lin. ft. 12" V.C. pipe	=	29,500.00
	8,000 lin. ft. 10" C.I. Force Main	=	22,500.00
	Pump lift at Lighter Than Air Base	=	3,000.00
			<u>\$112,800.00</u>
	Engineering & Contingencies		<u>17,000.00</u>
	Total		<u>\$129,800.00</u>



APPENDIX C

ESTIMATE OF COST

PLAN II - (Water treated and delivered to Sewage Disposal  
plant at El Toro - Then to San Diego Creek.)

1.	Acid proof sump - waste influent	=	\$ 1,000.00
2.	2 Sump pumps - all bronze	=	1,800.00
	2 - 100,000 Gal. wood	=	8,000.00
	Air Compressor	=	800.00
	Chemical measuring hoppers and tanks	=	400.00
	8,000 gal. Sludge tank (wood)	=	1,000.00
	Foundation	=	300.00
	1,000 gal. oil collecting tank (wood)	=	150.00
	Foundation	=	100.00
	4,000 gal. sump - concrete	=	600.00
	3 - Sludge beds 50' x 100'	=	4,500.00
	Piping, Valves, etc.	=	4,500.00
	Electrical work	=	500.00
	Chemical storage building, walkways, stairs and other carpenter and mill work	=	<u>2,000.00</u>
			25,650.00
	Engineering and contingencies		<u>4,000.00</u>
	Total		\$29,650.00



SURVEY OF INDUSTRIAL/OILY WASTE DISCHARGES  
TO STORM AND SANITARY SYSTEMS

MARINE CORPS AIR STATION, EL TORO

FINAL REPORT — ESR NO. 404101P

10 MAY 1978

CODE 114H  
SAN DIEGO SECTION, ENVIRONMENTAL BRANCH  
DEPARTMENT OF THE NAVY  
WESTERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
SAN BRUNO, CALIFORNIA 94066

SURVEY OF INDUSTRIAL/OILY WASTE DISCHARGES  
TO STORM AND SANITARY SYSTEMS  
MARINE CORPS AIR STATION, EL TORO  
FINAL REPORT -- ESR NO. 404101P

10 May 1978

REFERENCES.

- (a) NAVFAC Civil Engineering Design Guide (DM-5)
- (b) Marine Corps Real Property Facilities Manual (MCO P11000.8A)
- (c) WESTNAVFACENGCOM Utility Improvement Program (UIP) Survey,  
MCAS El Toro, 11233:JHE:bp of 29 Nov 77

1. PROBLEM. The uncontrolled discharge of industrial/oily waste into either the activity's storm or sanitary systems without appropriate pre-treatment is in violation of both state and local environmental rules and regulations.

2. DISCUSSION.

a. Description of Systems.

(1) Sanitary: The activity's sewage system consists of approximately 20 miles of 6 to 18 inch diameter vitrified clay pipe. This total length of sewer line is divided into two (2) separate gravity sewer systems. One of these systems collects sewage generated in the family housing area and the operational buildings located along the eastern side of the activity. The other sewer system collects sewage from the administrative, barracks, and operational areas in the western and northern quadrants of the activity (this system has one small ejector type pump station servicing Building 375). These two (2) systems join just south of the Public Works Compound and flow into the Irvine Ranch Water District's sewage system.

(2) Storm: Storm water is collected and conveyed off the activity by a series of gravity lined and unlined ditches. In general, storm sewers are used only in areas where the storm system passes under roads, runways, or parking aprons. With the exception of minor connections to drainage channels which boundary the activity on the east and west, the vast majority of storm waters is collected in two (2) drainage ditches which cross the activity from north to south.

At the point where each of these drainage ditches leaves the activity an oil/water separator system has been installed. Each of these systems consists of a check dam, which channels dry weather flow into a chamber where a power-driven vertically-mounted stainless steel belt collects the oil. Oil that adheres to this belt is skimmed off and directed to a waste oil tank. After passing through this oil removal system the water and any remaining oil is pumped to the sanitary sewer system.

b. Survey Procedure. In an effort to determine the location, quantity, and type of industrial/oily waste being discharged to the activity's sanitary and storm systems, a survey was performed with the assistance of



10 May 1978

activity personnel. The results of this survey are summarized in exhibits A and B. It should be noted that, while this survey concentrated on direct connections between sources of industrial/oily waste and storm or sanitary systems, numerous observations were made of improperly stored industrial chemicals; oil, greases, and solvents, and evidence of poor spill cleanup and general grounds maintenance procedures.

### 3. CONCLUSIONS.

a. Storm System. No test data was available on the quality of water flowing in the storm system; however, from a visual inspection of the two drainage channels it would appear that discharges leaving the activity during wet weather periods are in violation of the Santa Ana River Basin Water Quality Control Board's standards for oil and grease (visible sheen) and detergents (visible foaming). In addition to these two (2) parameters, there is a real possibility that discharges from the drainage channels could, at times, exceed the standards for phenols and certain heavy metals.

b. Sanitary System. There are very few direct connections between industrial areas and the sanitary sewer system (see exhibits A and B) and, with the exception of the cross connections from the drainage channels and the sanitary sewer system that exist at the drainage system oil/water separator, all the connections located during the industrial survey meet pretreatment standards outlined in references (a) and (b).

The problems with the cross connection between the drainage channels and sanitary sewer system are: 1) this type of cross connection is prohibited in article 202 of the Irvine Ranch Water District's rules and regulations (storm/sanitary cross connections); and 2) during periods when the oil/water separator belt is not in operation, there is a real possibility that the sewage effluent from the activity exceeds the 100mg/l oil and grease limit set by the Irvine Ranch Water District.

4. RECOMMENDATIONS. To correct existing discharges which are in violation of either the Santa Ana River Basin Water Quality Control Board standards or the Irvine Ranch Water District rules and regulations and guidance provided in references (a) and (b), it is suggested that the following actions be taken:

a. The preliminary DD 1391 developed as a result of observations made during reference (c) should be updated in light of recommendations provided in exhibit C. This updated DD 1391 should be submitted for pollution abatement funding in accordance with procedures outlined in reference (b).

b. The Spill Prevention Control and Countermeasure (SPCC) plan for the activity (dated July 1975) should be reviewed and updated in accordance with requirements set forth in CFR 40 Title 112.5. This updated SPCC should include the following sections: 1) an inventory of existing facilities covered by these regulations; 2) containment structures in existence or required for each facility covered; and 3) a spill contingency plan.

10 May 1978

It is suggested that, because this revision effort will require a great deal of professional engineering time, to ensure compliance with the provisions of CFR Title 112, an A-E contract be let to accomplish this task. In addition to updating the SPCC plan for the activity, it is recommended that any A-E scope of work for this effort include the development of documentation required for any SPCC-related projects.



Norman A. Schmokel, P.E.  
Sanitary Engineer

LIST OF EXHIBITS

- A -- Inventory of Industrial/Oily Waste Discharges
- B -- Inventory Reference Map
- C -- Oily Waste Inventory Recommendations

# OILY WASTE INVENTORY

MAP REFERENCE	POINT OF GENERATION	FLOW	COMPOSITION	POINT OF DISPOSAL	REMARKS
1.	PUBLIC WORKS SHOP (BLDG. 370) WATER WALL PAINT SPRAY BOOTH	VARIES - MAXIMUM BLEED- OFF 2GPM	WASTE WATER CONTAINING SMALL AMOUNT OF PAINT	STORM SEWER*	NOT PRESENTLY IN OPERATION
2.	NORTH OF VEHICLE MAINTENANCE SHOP (BLDG. 1589), VEHICLE WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OILS, GREASES, DETERGENTS	STORM SEWER	
3.	NORTH OF CONSTRUCTION EQUIP- MENT SHOP (BLDG. 386), STEAM CLEANING AREA	VARIES - 2-5GPM MAX	WASTE WATER CONTAINING OILS, GREASES, DETERGENTS	STORM SEWER*	
4.	SOUTH OF VEHICLE MAINTENANCE SHOP (BLDG. 298), STEAM CLEANING AREA	VARIES - 2-5GPM MAX	WASTE WATER CONTAINING OILS, GREASES, DETERGENTS	STORM SEWER VIA GREASE TRAP	
5.	SOUTHEAST CORNER, PUBLIC WORKS COMPOUND, VEHICLE WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OILS, GREASES, DETERGENTS	STORM SEWER VIA GREASE TRAP	GREASE TRAP PUMPED ONCE A MONTH
6.	EAST OF STORAGE BUILDING (BLDG. 359), STEAM CLEANING AREA	VARIES - 2-3GPM MAX	WASTE WATER CONTAINING OILS, GREASES, DETERGENTS	STORM SEWER	
7.	EAST END OF STORAGE BUILDING (BLDG. 359), DEGREASING AREA	300 GALLON TANK	CONCENTRATED STANDARD SOLVENT	STORM SEWER	BATCH DUMPED AS REQUIRED
8.	EAST END OF STORAGE BUILDING (BLDG. 359), DEGREASING AREA	400 GALLON TANK	TRICHLOROETHYLENE	STORM SEWER	NOT IN OPERATION AT TIME OF SURVEY
9.	SOUTH OF VEHICLE MAINTENANCE SHOP (BLDG. 388), VEHICLE WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OILS, GREASES, DETERGENTS	STORM SEWER	
10.	NORTH OF VEHICLE MAINTENANCE SHOP (BLDG. 655), VEHICLE WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OILS, GREASES, DETERGENTS	STORM SEWER	
11.	EAST OF AIRCRAFT HANGAR (BLDG. 297), AIRCRAFT WASHING AREA	VARIES, 20GPM MAX	WASTE WATER CONTAINING OILS; GREASES, AND DETERGENTS	STORM SEWER VIA SAND TRAP	APPROXIMATELY ONE AIRCRAFT WASHED EVERY DAY



POINT OF GENERATION	POINT OF GENERATION	FLOW	COMPOSITION	POINT OF DISPOSAL	REMARKS
1.	EAST OF AIRCRAFT HANGAR (BLDG. 295), AIRCRAFT WASHING AREA	VARIES - 20GPM MAX	WASTE WATER CONTAINING OILS, GREASES, AND DETERGENTS	STORM SEWER VIA SAND TRAP	APPROXIMATELY ONE AIRCRAFT WASHED EVERY DAY
2.	REFUELING VEHICLE MAINTENANCE FACILITY (BLDG. 672), VEHICLE FUEL TANK CLEANING AREA	4-5 5,000 GALLON FUEL TANKS CLEANED PER MONTH	WASTE WATER CONTAINING SMALL AMOUNTS OF JP-5, JP-4, OR AVIATION GASOLINE	STORM SEWER VIA OIL/WATER SEPARATOR*	OIL/WATER SEPARATOR IS WASHED OUT EVERY TIME A 5,000 GALLON TANK IS EMPTIED
3.	SOUTH OF VEHICLE MAINTENANCE SHOP (BLDG. 390), VEHICLE WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OILS, GREASES, AND SOLVENTS	STORM SEWER	
4.	SOUTH OF GROUND SUPPORT VEHICLE SHOP (BLDG. 673), GROUND SUPPORT EQUIPMENT WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OILS, GREASES, AND SOLVENTS	SANITARY SEWER VIA GREASE TRAP	
5.	AIRCRAFT WASHING AREA SOUTH-WEST OF BLDG. 461	VARIES - 20GPM MAX	WASTE WATER CONTAINING OILS, GREASES, AND SOLVENTS	STORM SEWER	APPROXIMATELY ONE AIRCRAFT WASHED PER DAY
7.	AIRCRAFT WASHING AREA NORTH OF BLDG. 463	VARIES - 20GPM MAX	WASTE WATER CONTAINING OILS, GREASES, AND SOLVENTS	STORM SEWER VIA GREASE TRAP	GREASE TRAP IS PUMPED ONCE A MONTH
8.	JET ENGINE TEST CELL (BLDG. 447), FLOOR DRAINS	VARIES	WASTE WATER CONTAINING SMALL AMOUNTS OF JP-5	STORM SEWER*	
9.	EAST OF VEHICLE MAINTENANCE SHOP (BLDG. 392), VEHICLE WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OILS, GREASES, AND DETERGENTS	STORM SEWER	
10.	CORROSION CONTROL HANGAR (BLDG. 130), WATER WALL PAINT SPRAY BOOTH	VARIES - MAX BLEEDOFF 2-3GPM	WASTE WATER CONTAINING SMALL AMOUNT OF PAINT	STORM SEWER*	NOT PRESENTLY IN OPERATION
11.	EAST OF GROUND SUPPORT VEHICLE SHOP (BLDG. 127), GROUND SUPPORT EQUIPMENT WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OILS, GREASES, AND DETERGENTS	STORM SEWER VIA GREASE TRAP	GREASE TRAP PUMPED ONCE A MONTH
12.	JET ENGINE TEST CELL (BLDG. 658), FLOOR DRAINS	VARIES	WASTE WATER CONTAINING SMALL AMOUNTS OF JP-5	STORM SEWER VIA GREASE TRAP*	GREASE TRAP PUMPED ONCE A MONTH

MAP REFERENCE	POINT OF GENERATION	FLOW	COMPOSITION	POINT OF DISPOSAL	REMARKS
23.	AIRCRAFT WASHING AREAS SOUTH OF BLDG. 114	VARIES - 20GPM MAX	WASTE WATER CONTAINING OIL, GREASE, AND DETERGENT	STORM SEWER VIA GREASE TRAP	GREASE TRAP PUMPED ONCE A MONTH
24.	FIXED AIRCRAFT START SYSTEM (BLDG. 643), COMPRESSOR BLEEDOFF	APPROXIMATELY 2GPM	WASTE OIL AND GREASES	STORM SEWER VIA OIL/WATER SEPARATOR	
25.	AIRCRAFT WASHING AREA SOUTH OF BLDG. 606	VARIES - 20GPM MAX	WASTE WATER CONTAINING OIL, GREASE, AND DETERGENTS	STORM SEWER VIA GREASE TRAP	GREASE TRAP PUMPED ONCE A MONTH
26.	AIRCRAFT WASHING AREA SOUTH OF BLDG. 605	VARIES - 20GPM MAX	WASTE WATER CONTAINING OIL, GREASE, AND DETERGENTS	STORM SEWER VIA GREASE TRAP	
27.	SOUTH OF VEHICLE MAINTENANCE SHOP (BLDG. 31), VEHICLE WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OIL, GREASE, AND DETERGENTS	OPEN DRAINAGE DITCH	
28.	SOUTH OF VEHICLE MAINTENANCE SHOP (BLDG. 10), HEAVY EQUIP- MENT WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING SAND AND MUD	STORM SEWER VIA SAND TRAP	
29.	NORTH OF VEHICLE MAINTENANCE SHOP (BLDG. 5), STEAM CLEAN- IN AND WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OILS, GREASES, AND DETERGENTS	STORM SEWER	
30.	SOUTH OF EXCHANGE AUTO REPAIR SHOP (BLDG. 651), STEAM CLEANING AND WASHING AREA	VARIES - 10GPM MAX	WASTE WATER CONTAINING OILS AND GREASE	SANITARY SEWER VIA OIL/WATER SEPARATOR	
31.	NORTH OF VEHICLE HOBBY SHOP (BLDG. 626), STEAM CLEANING AREA	VARIES - 2GPM MAX	WASTE WATER CONTAINING OILS AND GREASES	SEEPAGE PIT WHICH OVERFLOWS TO DRAINAGE DITCH	
32.	EXCHANGE CAR WASH (BLDG. 1702)	VARIES - 10GPM MAX	WASTE WATER CONTAINING OIL, GREASE, AND DETERGENTS	STORM SEWER VIA GREASE TRAP	NOT PRESENTLY IN OPERATION; MAY BE MOVED IN THE NEAR FUTURE
*From a review of the existing utility drawings, the exact point of discharge cannot be determined for these facilities. It is assumed, however, that a majority of discharges are to the storm sewer system.					

C-27

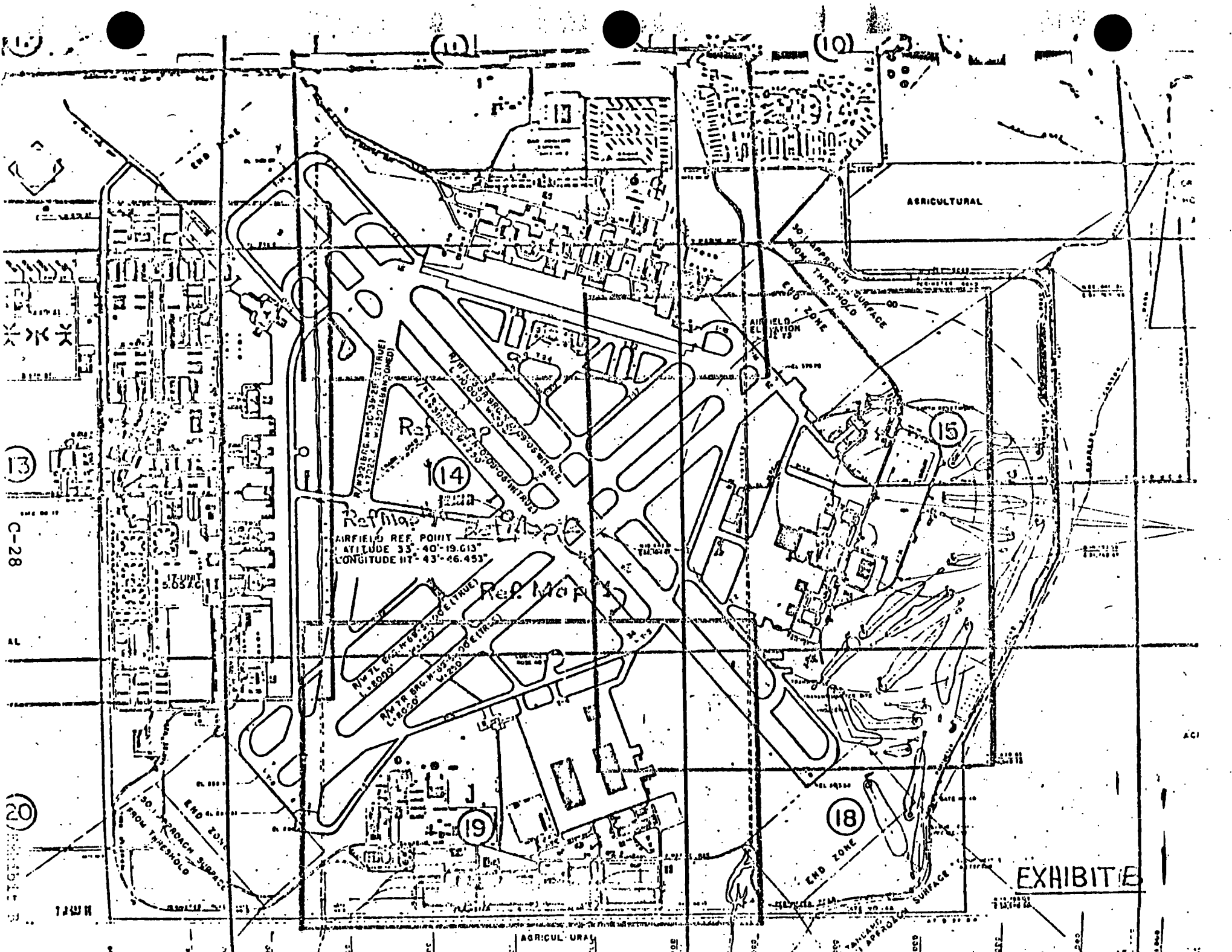
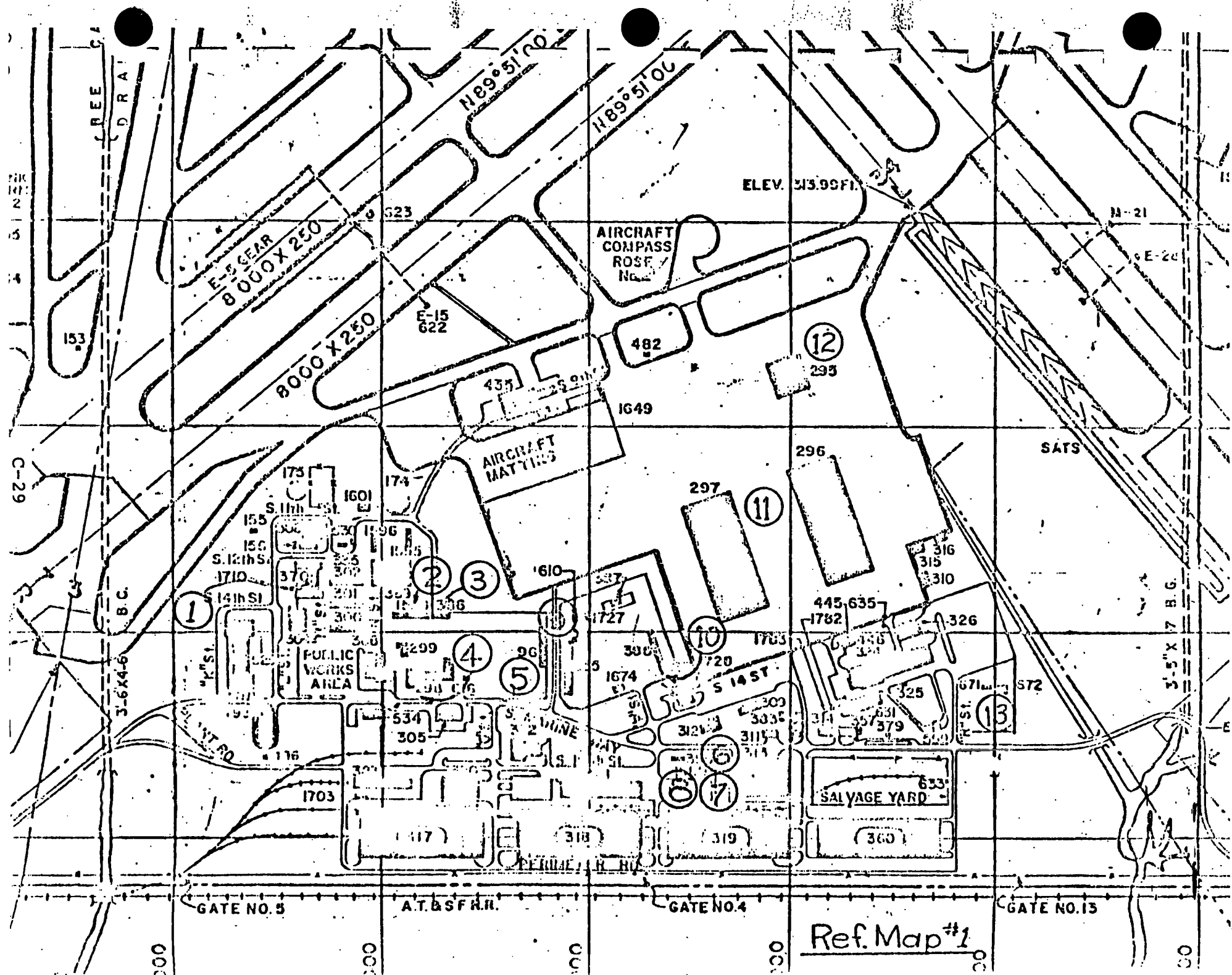
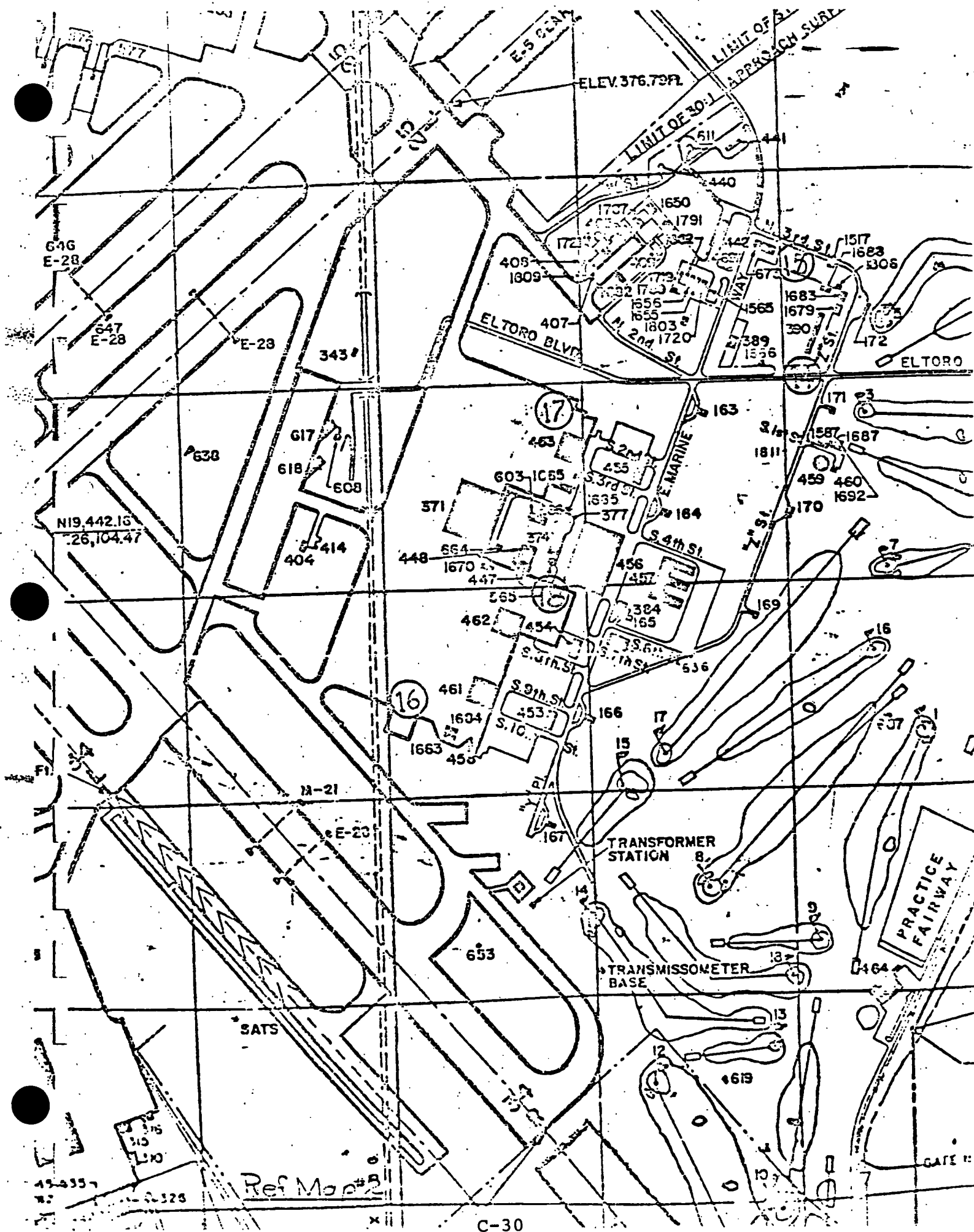


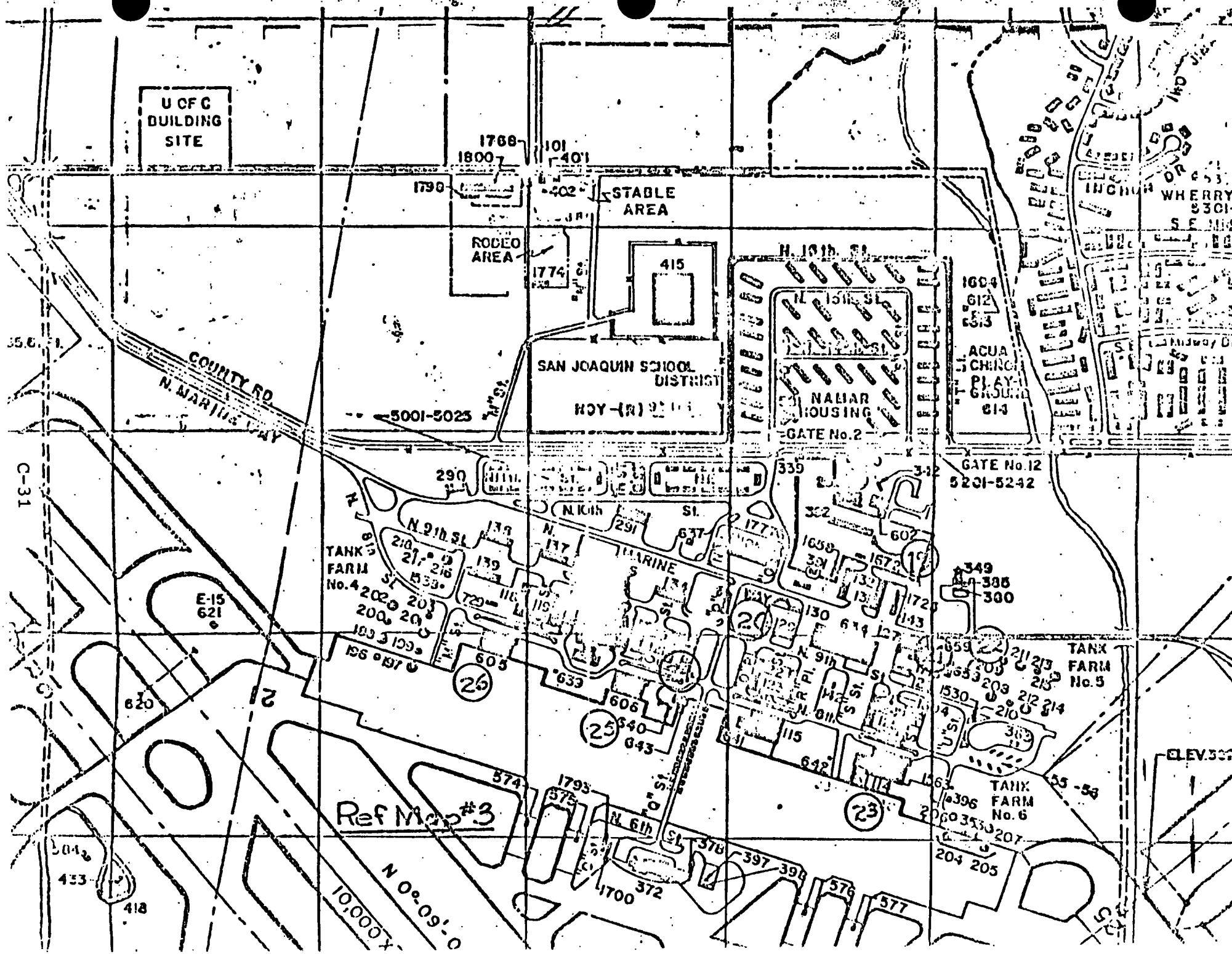
EXHIBIT E



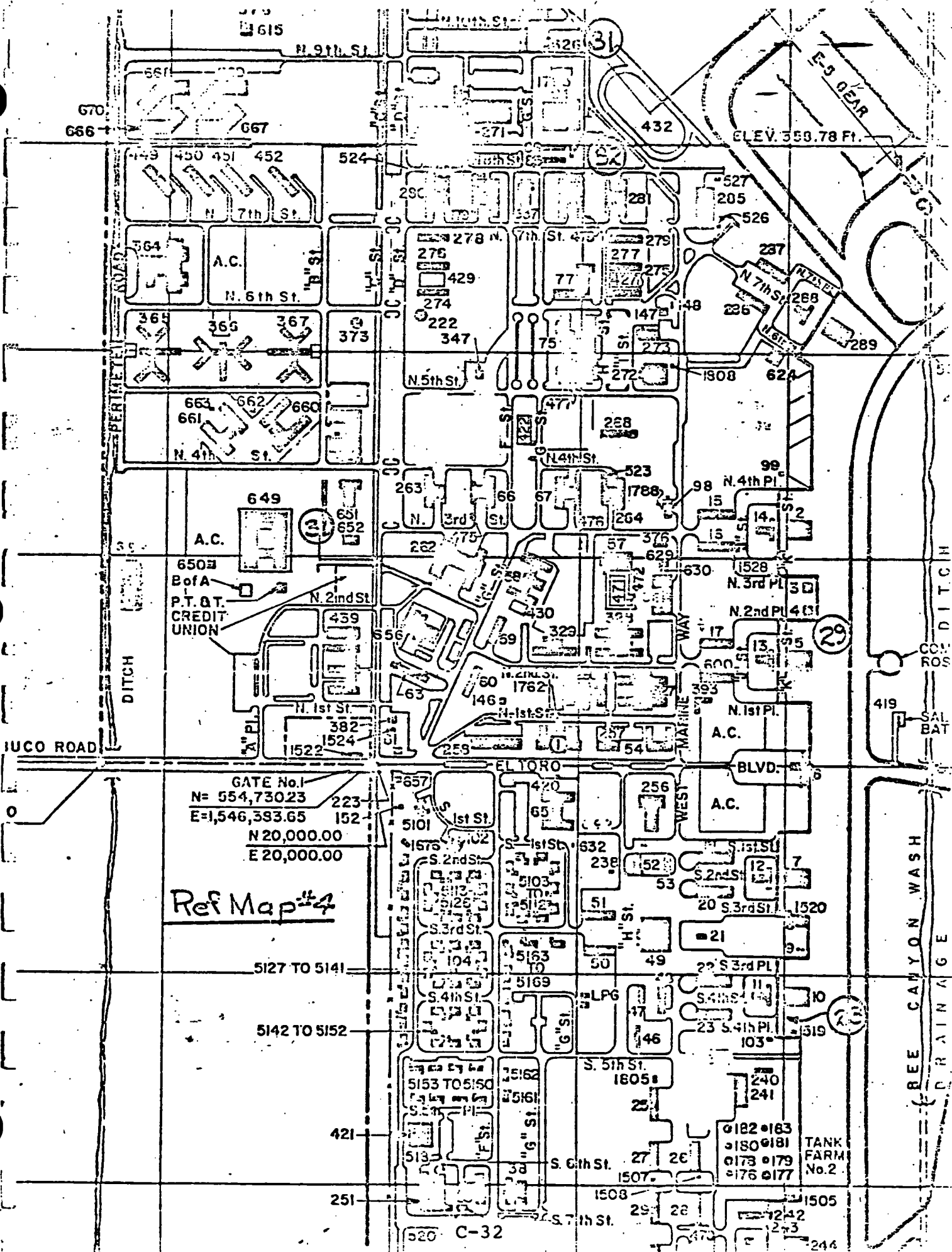


Ref. Map #1









## OILY WASTE INVENTORY RECOMMENDATIONS

Using guidance provided in the latest edition of NAVFAC Civil Engineering Design Manual (DM-5, Chapter 10) and Marine Corps Real Property Facilities Manual MCO P11000.8A (Volume V, Environmental Management, Appendix H) the following recommendations are provided:

<u>Item Number</u>	<u>Recommendation</u>
(See Oily Waste Inventory)	
1	Prior to placing this paint spray booth back in operation, provisions should be made to connect the water wall bleedoff discharge to the sanitary sewer via a multi-chambered separator. Paint sludges from this facility should be collected separately and hauled to a Class I sanitary landfill for disposal.
2, 3, 4, 5	<p>These separate steam cleaning and washing areas should be consolidated into a single facility. It is suggested that this facility consist of three (3) covered bays (one for truck and trailer washing, one for sedans and light trucks, and one for steam cleaning). Each bay would have a floor drain/grease trap. These drains should be connected by a common drain line to the activity's sanitary sewer system via a multi-chamber gravity-type oil/water separator.</p> <p>In addition to the basic structure required for this facility, it is suggested that each washing bay be equipped with water heating, pressure pumping, detergent mixing, and pressure spray boom equipment.</p>
6	The use of this steam cleaning area should be discontinued. If, because of operational requirements, this cannot be done, the drain from this area should be connected to the sanitary sewer system via a multi-chamber gravity-type oil/water separator.
7, 8	These degreasing tanks should be connected to a waste holding tank.
9, 10	These two areas should be consolidated into a single washing facility. This facility should be covered and bermed to minimize rain runoff entering the sanitary sewer system. The drain/grease trap of this facility should be connected to the sanitary sewer system via a multi-chamber gravity-type oil/water separator. Washing equipment similar to that required at the Public Works compound washing area should be provided.

11, 12

These two areas should be consolidated into a single aircraft washing area. The washing area should be bermed with the drain connected to the sanitary sewer system via a multi-chambered gravity-type oil/water separator. Supporting equipment for this area should consist of a water heater, pressure pumps, detergent mixing tank, and pressure spray booms.

13 Provide a 5,000 gallon above- or below-ground surge tank between tank cleaning area and oil/water separator. Connect oil/water separator to sanitary sewer system.

14 See items 9, 10 for recommendations.

15 Install multi-chamber gravity-type oil/water separator between the grease trap and sanitary sewer connection.

16 See items 11, 12 for recommendations..

17 See items 11, 12 for recommendations.

18 Drains from this facility should be connected to the sanitary sewer system via a multi-chamber gravity-type oil/water separator.

19 See items 9, 10 for recommendations.

20 See item 1 for recommendations.

21 Connect this area to the sanitary sewer system via a multi-chamber gravity-type oil/water separator.

22 See item 18 for recommendations.

23 See items 11, 12 for recommendations.

24 Replace existing oil/water separator with a multi-chamber gravity-type oil/water separator of a greater capacity and connect to sanitary sewer.

25 Discontinue use of this washing area.

26 See items 11, 12 for recommendations.

27 The use of this washing area should be discontinued. If operational requirement requires its continued use, it is suggested that this area be connected to the sanitary sewer via a grease/sand trap (the use of detergents in this area should be prohibited).

28 Connect to sanitary sewer (the use of detergents in this area should be prohibited)..



- 29 See items 9, 10 for recommendations.
- 30 No recommendations.
- 31 Connect steam cleaning area to sanitary sewer via a multi-chamber gravity-type oil/water separator.
- 32 When this facility is relocated it is suggested that it be constructed using guidance provided in the recommendations for items 9, 10.

#### General Recommendations

1. All steam cleaning operations other than those mentioned above should be prohibited.
2. The use of detergents at vehicle and aircraft washing areas not mentioned above should be prohibited.
3. Floor drains in vehicle, aircraft, and equipment maintenance and repair buildings should be sealed and dry absorbents rather than washing used for cleanup.
4. Drip tanks should be provided at all areas where lube oil, paint thinners, degreasers, hydraulic fluids, cutting oils, or liquid detergents are dispensed.
5. Storage areas for lube oil, paint thinners, degreasers, hydraulic fluid, cutting oils, liquid detergents, and waste oils/solvents should be consolidated. This consolidation should include proper siting and berming of the storage area to minimize potential spills reaching the storm or sanitary sewer systems.

SURVEY OF AIR EMISSION SOURCES  
AT MCAS EL TORO

<u>Bldg. No.</u>	<u>Qty.</u>	<u>Source and Description</u>	<u>Permit to Operate Required</u>
300	3	Solvent dip tanks - 9 sq. ft. each, non-agitated	
	1	Paint spray booth	
	1	Bake oven - 18 cu. ft.	
370	1	Paint spray booth - nonuse	
306	1	Solvent spray tank - 7 sq. ft., agitated	X
1601	3	Paint striping machines - greater than 1 gallon/day	X
299	1	Automotive-type paint spray booth - nonuse	
298	3	Portable oil-fired steam cleaners	
	1	Gasoline storage tanks and dispensers	X
297	3	Parts cleaning tanks - 6 sq. ft. each, non-agitated	
388	1	Parts cleaning tank - 6 sq. ft., non-agitated	
	1	Automotive-type paint spray booth - nonuse	
	1	Gasoline storage tank and dispensers	X
655	1	Parts cleaning tank - 6 sq. ft., non-agitated	
	1	Parts cleaning tank - 12 sq. ft.	X
	1	Parts cleaning tank - 50 sq. ft.	X
326	1	Paint spray room - less than 1 gallon/day	
296	1	Parts cleaning tank - 4 sq. ft.	
	2	Vacublast portable recycling units	
	1	Hevi-Duty furnace - nonuse	
	1	Despatch oven - machine parts assembly	
	1	Salt bath furnace - nonuse	
295		Hangar - aircraft touch-up painting and cleaning	
315	1	Abrasive blast cabinet - 5' x 4' x 3' with baghouse	X
	1	Dry-out oven - electric	
390	1	Paint spray room - nonuse	
	1	Gasoline storage tank and dispenser	
673	1	Paint spray room - dry filters exhaust - 18	
	1	Vacublast cabinet - nonuse	
	2	Parts dip tanks - 2' x 1 1/2' x 3' DP outside	

<u>Bldg. No.</u>	<u>Qty.</u>	<u>Source and Description</u>	<u>Permit to Operate Required</u>
458		Paint building - nonuse, storage	
461		Hangar - aircraft touch-up painting and cleaning	
462		Hangar - nonuse	
456		Supply warehouse	
463		Hangar - aircraft touch-up painting and cleaning	
359	1	Steam cleaner - portable	
	1	Parts dip tank - 3' x 6' x 4' DP	X
	1	Vapor degreaser - 4' x 6' x 8' DP	X
392	2	Parts dip tanks - agitated, 2' x 1 1/2' x 2 1/2' DP	X
	1	Gasoline storage tank and dispensers	
130	1	Paint spray room - nonuse, scheduled for repair	
		Outdoor paint area - 7 gallons/day, spray equipment	X
634	1	Furnace - aluminum hardening	
	1	Paint spray room - 1/2 gallons/day	
	1	Abrasive blast cabinet - 4' x 3' x 2 1/2' with collector	
	1	Abrasive blast cabinet - nonuse	
114		Hangar - aircraft touch-up painting and cleaning	
115		Hangar - aircraft touch-up painting and cleaning	
643		Air compressors for aircraft start system	
606		Hangar - aircraft touch-up painting and cleaning	
605		Hangar - aircraft touch-up painting and cleaning	
10		Outdoor paint area - 1-2 gallons/day, spray equipment	X
5	1	Parts dip tank - agitated, 2' x 4' x 3' DP	X
	1	Portable steam cleaner	
651	1	Parts dip tank - 3' x 1 1/2' x 3' DP, unagitated	
	2	Parts dip tanks - 2' x 1 1/2' x 1 1/2' DP, unagitated	
	1	Exchange service station storage tanks	X
		Dispensers with Stage I and Stage II vapor recovery system	
626	2	Parts dip tanks - 2' x 1 1/2' x 1' DP	
	2	Parts dip tanks - 4' x 2' x 1 1/2' DP	
	1	Parts dip tank - 2 1/2' x 2' x 1' DP	



<u>Bldg. No.</u>	<u>Qty.</u>	<u>Source and Description</u>	<u>Permit to Operate Required</u>
1795	1	Parts dip tank - 2' x 1 1/2' x 1' DP	
	1	Portable steam cleaner	
51	1	Parts dip tank - 2 1/2' x 1 1/2' x 3' DP	
	1	Paint spray room - 1-2 gallons/day, spray equipment	X
47	1	Paint spray room - nonuse	
240	1	Flying club storage tanks and dispenser with Stage I vapor recovery system	X
553	1	10,000 gallon unleaded gasoline storage tank	X

## **Appendix D**

### **LIST OF NEESA PHOTOGRAPHS**

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**MCAS EL TORO SLIDES  
BOX NUMBER A**

SLIDE NUMBER	DESCRIPTION	LOCATION ON BASE
4	Unlined oil pit, Crash Crew burn pit	Crash Crew Training Area
5	Crash crew training area	Crash Crew Training Area
6	Crash Crew practice pit	Crash Crew Training Area
7	Crash Crew practice pit shows burned soil with residul liquid, ponding in center of burn area (before lining installed)	Crash Crew Training Area
8	Same as photo 7 (different angle)	Crash Crew Training Area
9	Drainage ditch	North east corner of base
10	Same drainage ditch as photo 9 closer view	North east corner of base
11	Errosion control structor of ditch in Photo 9	North east corner of base
14	Stressed vegetation showing bare soil patch grass and surrounding dry vegetation	North east corner of base
16	Drainage ditch	Unknown
17	Drainage ditch	Unknown
18	Drainage ditch with trash	Unknown
19	Drainage ditch with demolished shed	Unknown
20	Drainage ditch Northerly view	Unknown

SOURCE: NEESA Archives

Slides taken by Brown & Caldwell and processed 17 May, 1985

**MCAS EL TORO SLIDES  
BOX B**

SLIDE NUMBER	DESCRIPTION	LOCATION ON BASE
1	Golf course; Shows dump site South of bldg 457, edge of golf course above 17th green	South east corner of base
2	Buildings 2, 14, 15, 16,	O4
3	Runway 16-L with staining on soil and tarmack	N7
4	Buildings 605, 139, 138, 118 and 119 Same stain as in photo 3	N7
5	Entire Runway	
6	Direct fueling station Contaminated fuel farm, Wash rack 114, Power Plants	
7	Firing Range	North of base
8	Landfill showing drums	North of base
9	Closer view of landfill	North of base
15	Buildings 26, 27, 28, 29 and 31	R4 and S4
16	Tree farm entrance	
17	Graded landfill	
18	Old golf course service area; 6th Tee Shows dump area, land scaping, leafy, shrubby waste	Q13 South of 6th tee Norht of 7th green
19	Test cell Building 461, 462	
20	Corner of base	N14
21	Aerial View	P10-11-12 Q10-11-12 O10-11
22	Dump site and old vehicles	P12-13 Q12-13

SOURCE: NEESA Archives

Slides taken by Navy Civil Engineer Laboratory

No date on box or slides

**MCAS EL TORO SLIDES**  
**BOX B**

SLIDE NUMBER	DESCRIPTION	LOCATION ON BASE
23	Golf course Disposal dump area	P13 and Q13
24	Aerial View; Shows two golf course dump sites Above the 17th green and west of th 6th Tee	Q11-12-13 R11-12-13
25	Oil/water separator	U10 and V10
26	Golf course club house	S13 and T13
27	Driving range	S13
28	Aerial View	N13-14
29	Northeast side of base	
30	Possible landfill	North of base
31	Large above ground tank structure	North end of base
32	North end of base	
33	Above ground tank and surroundings	North end of base
34	Beginning of runway 16-L and 16-R	M4-5 and L4-5
35	Gym, Auto Hobby Shop Building 625	
36	Main entrance, west end facilities of base	
37	Runway 7-L and 7-R (building 647 oil/water sep.)	T5 and U5
38	Same as slide 37, showing FMD public works	T6-7 and U6-7
39	Supply building 320 drum storage	U7
40	Crash crew building	T8
41	Same as photo 40	T8
42	building 319 DRMO solids yard	U9 and V9
43	Bulk refuelers and runways 34-R and 34-L	S,T,U10

SOURCE: NEESA Archives

Slides taken by Navy Civil Engineer Laboratory

No date on box or slides



**MCAS EL TORO SLIDES  
BOX C**

SLIDE NUMBER	DESCRIPTION	LOCATION ON BASE
3	Valve and ponding, behind Bldg 314	U9
5	Storage locker and platform accross the street from DRMO Salvage Yard	
8	Agua Chinon Wash	
9	Northerly view of Agua Chinon Wash drainage leading to oil/water seperator	
10	Skimmer used at Wash	
11	Disposal area for golf course; West of 6th Tee (55 gal and lawn/tree cuttings)	Q13
12	Valve, behind Bldg 314	U9
13	Ponding at Valve, behind Bldg 314	U9
18	Unknown Bunker West of golf course	
19	Back side of bunker in #18	
22-23	Golf course Disposal Area	Q13
24	Concrete drainage ditch to direct runoff water away from bulk refueler	
25	MAG 46 Helo Hazardous Waste Storage Area (unbermed)	

SOURCE: NEESA Archives  
Slides processed February 1985

**MCAS EL TORO SLIDES  
BOX 1**

SLIDE NUMBER	DESCRIPTION	LOCATION ON BASE
6	Firing range dump site area	North of Base
7	Stressed vegetation and stained soil	Unknown
9	Stained clearing in the middle of a green field	Unknown
10	Stained clearing in the middle of a green field	Unknown
11	Landfill, trash and boarding	North of Base
12	Entire landfill	North of Base
13	Excavated land at landfill	North of Base
23	Shows graded area for building 800 as well as full creek where oil/water separator will be installed (view is looking north)	South east corner of Base
24	Same as 23, shows more of discharge canal	South east corner of Base
25	Agricultural fields around base Looking in a northerly direction from the southwest corner of the base	Southwest corner of the base

**SOURCE: NEESA Archives**

**Slides taken by Brown & Caldwell and processed March 1985**

**MCAS EL TORO SLIDES  
BOX E**

SLIDE NUMBER	DESCRIPTION	LOCATION ON BASE
1	Aerial of south end of the base; MAG-46	
2	Buildings 359, 319, 318. Drums stored on the east side of 318	U8 and V8
3	Building 297 and 388 stains around Bldg 388	T8-9 & U8
4	Drum storage area building 279	RST8-9
5	DRMO storage yard with misc stains on the ground	U9
6	Drum storage area located north of refuelers facility (Bldg 671)	T,U9
7	Same as 6 different angle	T,U9
18	Golf course disposal area	Q13
21	Large drum storage area Northeast of MALS-11 GSE building 673	P12-13
22	Stressed vegetation Northeast corner of base	N14 and O14
23	Close-up of #22; Buried Bladder	N14
29	Buried bladder and a small concrete pad Previous Landfill site	N14
30	Landfill North of citrus orchard	L13-14 to I13-14
31	Dump-site in firing range (excavation area)	
33-38	Landfill area in firing range	

SOURCE: NEESA Archives

Slides taken by Brown & Caldwell and processed March 1985



**MCAS EL TORO SLIDES  
BOX F**

SLIDE NUMBER	DESCRIPTION	LOCATION ON BASE
1	Runways 7-L and 7-R	
3	Building 317 and storage area adjacent to Plant and Perimeter Road	U-6
4	Same as #3 different angel	U-6
5	Large scale view of South portion of base	S7-8-9;T7-8-9 U7-8-9
9	Large scaleview of Southeast portion of base	
11	Oil/water separator 675 and former site of building 800	
12	Ditch leading away from separator 675	
20	Runway 34-R	
21	Golf course, building 461 and construction of building 462	
22-25	Facilities East of Runway 25-L (Ordance VMFAT 101, GSE South)	
26-28	Drum storage area located West of GSE South building 673	
29	Old dump site	N,O14

**SOURCE: NEESA Archives**

**Slides taken by Brown & Caldwell and processed March 1985**